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The American Economic Review

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The American Economic Review

VOL. V

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THE EXPANSION OF EUROPE IN POPULATION¹

In the federal Constitution the two sentences about apportionment and a decennial enumeration mark the origin of the national census in the modern world. This is a political device so different from the old Roman census established for purposes of taxation that in French and German the two have different names. It originated in this country in close connection with the introduction of national representative institutions and since 1787 the two have spread hand in hand. After the Spanish-American war, when the United States took charge of Porto Rico, Cuba, and the Philippines and desired the extension of local government and representative institutions in those regions, one of its first steps was the enumeration of the total population and of various classes. Still more recently, when the Empress Dowager of China promised a representative government to her people, she announced that "representation in the Provincial Deliberative Assemblies would best of all be arranged on a strict basis of population, but as China has not yet made a census and to begin one would consume too much time," other bases will be used. This was recognized as only a makeshift, and about five years ago the results of the first official Chinese attempt at a census of population were published in the government gazette.²

The modern census thus originated as a political device and has spread in close and constant association with the extension of representative institutions. But apart from its political value it has rendered great service to the scientific study of man's social life. Indeed, this side of the modern census has steadily

¹This address was delivered as the Presidential Address at the meeting of the American Economic Association held in San Francisco, August 11, 1915. It incorporates in revised form material originally published in *Studies in Philosophy and Psychology*, a commemorative volume dedicated to Professor Charles E. Garman of Amherst College (Houghton, Mifflin & Co., 1906).

²W. W. Rockhill, "The 1910 Census of the Population of China" in *T'oung-Pao*, vol. XIII (1912).

gained ground in comparison with its political importance. To some inferences derived from this field of census work I ask your attention this evening.

The title of my address has been suggested by Seeley's *Expansion of England*. The theme on one side is wider in that it covers all Europe, but on another it is much narrower in being confined to population. What I have to say may be prefaced by a reference to his familiar argument. He maintained and tried to prove that the main thread binding modern European history into unity and meaning has been a competition between the powers of western Europe, especially Spain, Portugal, Holland, France, and England, for transmarine expansion and colonial empire. The competition resulted in the failures of Spain, Portugal, and Holland and later in a mighty, century-long duel between France and England for commercial and colonial dominance in Asia and America, a duel which was interrupted for a time by the complete triumph of England under the lead of the Great Commoner. Then followed the disruption of England's vast empire through the American Revolution and a renewal of the struggle, when her main rival, France, under the guidance of Napoleon, made strenuous and persistent efforts to wrest from England what remained of her world dominion, efforts which came to a disastrous end at Waterloo. The nineteenth century saw the rise, upon the ruins of the first, of a second British Empire which now includes more than one fifth of the earth's surface and more than one fourth of its population. Were Seeley still alive he would doubtless find in the present war strong confirmation of his thesis that the history of Europe for more than four centuries has centered around the efforts of various competing powers to secure commercial expansion and colonial empire. He would perhaps have endorsed the view recently expressed by a German historian that the present is likely to be only the first of a series of great wars comparable with the century-long struggle between Rome and Carthage for commercial and colonial dominance in the Mediterranean or the yet longer rivalry between England and France.

To an American student not interested primarily in politics this interpretation of modern history, suggestive and enlightening as it is, may seem to betray a patriotic, if not an insular, bias. He may doubt whether history has a theme, whether any

single thread can guide one through its maze, or he may discern elsewhere the real thread of Ariadne. Beside this contention of Seeley's, let me put a few sentences from one of the great English statists. Sir Robert Giffen, speaking as President of the Royal Statistical Society, said:

The increase of population in the United States . . . is such as to be fairly bewildering in its probable consequences. The phenomenon is also without a precedent in history. . . . [It] is perhaps the greatest political and economic fact of the age. [It] has altered . . . the whole idea of the balance of power of the European nations. . . . The idea of a new Europe on the other side of the Atlantic affects every speculation. . . . European Governments can no longer have the notion that they are playing the first part on the stage of the world's political history. And this sense of being dwarfed will probably increase in time.³

If this statement was true more than thirty years ago, when it was made, it is certainly no less true today.

In these English writers we find two ideas at least superficially different regarding the unifying thread of modern history and present politics. The English historian finds it in the expansion of England, the English statist in the growth of the United States. Sir Robert's view seems to me the more detached and the sounder. In another passage from the same address he blends the two ideas and thus states my present theme, "The great economic phenomenon of our time" is "the creation of the United States of America and the provision by this and similar agencies for a growth of population not only in the United States but in Europe which is entirely without precedent."⁴ This theme I call the Expansion of Europe.

In order to ascertain whether an expansion has taken place some means of measurement must exist.

Europe has expanded in multiform ways, but most of them

³Giffen, *Economic Inquiries and Studies*, vol. II, p. 92.

A similar opinion had been previously expressed by a British traveller in the United States and endorsed by Darwin in the following words: "Looking to the distant future, I do not think that the Rev. Mr. Zincke takes an exaggerated view when he says 'All other series of events—as that which resulted in the culture of mind in Greece, and that which resulted in the empire of Rome—only appear to have purpose and value when viewed in connection with, or rather as subsidiary to . . . the great stream of Anglo-Saxon emigration to the west.'" Darwin, *Descent of Man*, ch. 5. Quotation from F. Barham Zincke, *Last Winter in the United States* (1868), p. 29.

⁴Giffen, *op. cit.*, p. 98.

are hardly susceptible of measurement. Thus the world is dominated in great and increasing degree by two systems of law, the Roman and the English, both essentially European products. Probably more than one third of the earth's population now live under one or the other of these legal systems.

Christianity, while not European in origin, has acquired many of its diverse forms and much of its impelling power of proselyting zeal in Europe and to this day the boundaries of Christianity as the prevailing form of religion are almost coincident with the boundaries of Europe and the colonies of Europe. Not far from one third also of the population of the earth is Christian.

At the time when America was discovered the number of people speaking one or another of the six main languages of Europe, French, German, Italian, Spanish, English, and Russian, was probably less than fifty million in all, or an average of ten million to each. Now these languages are used by an average of nearly 70,000,000 to each, 400,000,000 in all, or one fourth of the probable population of the earth. In like manner other aspects of European civilization, such as literature, art, science pure and applied, agriculture, and industry, might be shown to have expanded as European law, European religion, and European languages have expanded.

But these may all be regarded as secondary rather than primary phenomena, as results of the growth in the population of European stock. The increase in the number of Christians as a result of missionary effort among non-European peoples is of slight importance numerically when compared with the unparalleled increase in the population of the Christian nations. So the great extension of the leading languages of Europe is due little to the conquest of other peoples by those of European speech and the imposition of some European language upon them, as we have taught English to the Indians and the Negroes and are now teaching it to the Malays. In the expansion of Europe the primary phenomenon seems to be the increase of population, although the true relation is perhaps one of interaction rather than of cause and effect. The increase of European population no doubt has strengthened the influence of European law and religion; but, on the other hand, the civil and common law and the Christian religion, along with the science and industrial arts of Europe, have contributed to the rapid growth of its popu-

lation. Partly because population seems the primary factor but mainly because more trustworthy and exact measurements may be obtained in this field, I have still further defined the theme of my address as "The Expansion of Europe in Population."

To measure this expansion of Europe the period observed should be as long as possible. The earliest measurement deserving attention was made in 1741 by the leading statist of the eighteenth century and resulted in an estimated European population of 150,000,000. He determined the population of each country from such evidence as could be had, his results made a total of 130,000,000 and he added 20,000,000 to cover possible omissions. Twenty years later in amplifying his first study, he reduced his estimate to 130,000,000 by making no allowance for omissions. The value of his conclusion may be judged partly from his methods and partly from a comparison of his results with estimates subsequently made, but speaking for the same date and resting on better evidence. His methods for the various states differed widely. For some the number of persons reported as paying the hearth tax was multiplied by five to get the population. For others the annual number of deaths was multiplied by 36, or the annual number of christenings by 27. For one the estimated number of farms was multiplied by 20 and that product by 2; for another the annual number of recruits to the army was the starting point; for several the guess was made that the country was about as densely settled as another concerning which more was known.

Where methods were so crude the results might be thought valueless and if no means of checking or correcting them were at hand that conclusion might be the only one that was safe. But if the population of a country has been counted once, it is possible to infer from the difference between the results of enumeration and of an estimate how far the estimate departs from the truth and on which side. If the population has been counted twice or more at different dates and the rate of increase determined, it becomes possible by extending the rate backward to estimate the population before the date of the first census with an accuracy previously out of the question. By resorting to such helps the population of Europe in the middle of the eighteenth century can now be closely approximated. Following this course, I have sought to make a new estimate and to compare my figures with those under examination. The general result of the com-

parison is to prove that Süssmilch's estimates of the population in southern and western Europe were much too low. I add 5,000,000 to his population of France, 4,000,000 to that of Italy, 2,000,000 to that of the United Kingdom, 1,700,000 to that of Spain and Portugal, or a total of 12,700,000. On the other hand, his estimates for eastern Europe were much too high. I reduce his population of Poland and Lithuania by 6,000,000 and of Russia by 5,000,000. As a net result of offsetting corrections like these, I reduce his estimated population of Europe in the middle of the eighteenth century from 180,000,000 to 127,000,000.

On the eve of the present war the population of Europe was 452,000,000, showing an average annual increase through more than a century and a half of about 2,000,000. That is, since 1750 Europe has added more to its population yearly than the United States ever did in the same length of time.

Even if a thoroughgoing skeptic were to deny the value of the earlier estimates upon which I rely, he could not question the recent figures and therefore could not challenge the main conclusion that for many years the population of Europe has been increasing with unexampled rapidity. That since the twentieth century opened it has added 50,000,000 to its numbers, or about 4,000,000 each year, can be established by irrefutable evidence.

But this steady and rapid increase, it might be said, is a characteristic of all countries which have learned how to support a dense population by intensive agriculture. There are two and only two areas, China and India, which deserve in this respect to be compared with Europe. These three, excluding the thinly settled regions of western China, the peninsula of Deccan, and northern Europe, do not occupy more than one twentieth of the earth's land surface. Yet they embrace fully one half of its people. Is it true of the others, as it is of Europe, that the population has been steadily and rapidly increasing?

In the case of *China*, if the official returns are entitled to confidence, the answer must be, "Yes." The population of each province is reported annually to Peking and, for a period since the middle of the eighteenth century, the totals in nearly every year have been published. They show an increase so regular as to arouse suspicion. This was especially true throughout the century preceding the alleged Chinese census of 1842. Out of 162

cases during that period 160 show an increase, a record not to be paralleled in Europe or anywhere else except possibly in the United States. In British India, which furnishes the nearest analogy, more than one fifth of all such cases show a decrease.

This internal evidence of complete untrustworthiness is confirmed by external evidence. Before the eighteenth century the Chinese population returns were used as a basis for apportioning taxes and in consequence were probably too small. But for more than two centuries they seem not to have been used for that purpose or indeed for any other except to minister to the satisfaction of the central authorities. The leading English writer on the subject was nonplussed by an inexplicable increase of 44,000,000 in China's population in 1775 over that of 1774. But a Russian authority, with whose book apparently the Englishman was unfamiliar, tells us that in 1775 the Chinese Emperor detected negligence in the compilation and commanded a revision of the returns, whereupon the various local authorities arbitrarily augmented their figures. The total additions in that one year equalled nearly one half of the present population of the United States and apparently this water in the human stock of the Chinese Empire has remained unreduced for nearly a century and a half. The same Russian authority thus describes the mental attitude of the local Chinese clerks who make the returns. They think: "This place is distant, the country large . . . my superior is unable to discover an error." So they omit and increase *ad libitum* until the registers become in the end wholly fictitious.

A few years ago the American Minister to China investigated the evidence for the population of that country and concluded that little reliance could be placed on the Chinese figures. That result may be regarded as now well established.⁵

Are we left, then, with no answer to the main question whether

⁵Mr. Rockhill and I worked on the same problem, he in China with the Chinese sources and I in the United States with Russian, German, English, and American sources. On the two main points we reached substantially identical results, concluding that current estimates of the present population of China are grossly exaggerated and that the increase of that population since the middle of the eighteenth century has not been very large. Within the last ten years Mr. Rockhill's results have gained general acceptance. See W. W. Rockhill, "Inquiry into the Population of China" in *Smithsonian Report* for 1904, pp. 659-676, and "Note on the Population of China" in the *Quarterly Publications of the American Statistical Association*, XI (1908-9), pp. 357-362.

there has been an increase of Chinese population? Not quite. We are reduced to inferences from a knowledge of the factors which usually affect the growth of population. Probably in normal years there are many more births than deaths in China. But apparently an abnormal year in that country or in some large parts of it is the rule rather than the exception.

The main reason for believing that the population of China is not increasing is the great number and deadliness of natural calamities, famine, flood, and pestilence, or political calamities like civil war, which have more than decimated great sections of the population and devoured the natural increase of normal years. Thus by the overflow of the Yellow River in 1888, according to the memorial sent to the Emperor, some 2,000,000 were drowned or starved and the local correspondent of the London *Times* estimated the number of victims as 1,000,000 to 7,000,000. The losses of life in four provinces from the famine of 1877-78 were said by the China famine relief committee to amount to 9,500,000. Those from the famine of 1849 were estimated at 18,750,000 and those from the Tai-Ping rebellion were estimated at 20,000,000. These estimates of losses are those accepted by Rockhill and much larger figures are stated by other writers. No doubt in ordinary years China has a natural increase by excess of births over deaths. But there have been so many of these extraordinary years and in them the losses by death have been so heavy as to offset the increases in the other or normal years.

There is, then, a sharp contrast between China and Europe; in the former for a century or more the population has been nearly stationary, in the latter the population has been increasing with great and growing rapidity.

But Europe has had an influence far beyond its geographical boundaries. The growth of population in that continent is only one among several ways in which Europe has affected the population of the earth. Three other forms of European expansion may be distinguished, the increase among emigrants from Europe who have left that continent, the increase among native peoples who have fallen under the control of some European nation, and the increase among independent native peoples who have imitated the civilization of Europe.

To an American the most interesting of the secondary forms of European expansion is the multiplication of emigrants from

Europe in other parts of the world. Like the increase in Europe, this can best be measured by using the results of censuses or, lacking them, of estimates. Following this procedure, I have reached the conclusion that there are now living in other parts of the world not far from 127,000,000 persons of European birth or ancestry. The number of Europeans now living outside of Europe is about equal to the number of Europeans who lived within that continent in 1750. Of this great number nearly two thirds are in the United States. There are more Europeans by blood in this country than in any one country of Europe except Russia and about ten times the number in any other offshoot of Europe such as Brazil, Argentina, Canada, Australia, or Siberia. The United States is the one full-grown child of Europe.

The enormous increase of any one form of life is usually purchased at the expense of other competing forms which are displaced by the more efficient or serviceable type. Cattle and horses have displaced the buffalo and antelope; wheat, maize, and cotton have restricted the range of prairie grass and forest as the white man has of the Indian, Australian, and Malay. Does this general principle hold true of the expansion of the population of Europe beyond the bounds of that continent? Have the millions of Europeans by blood now living outside of Europe simply taken the place of those of other blood? How has this great expansion of Europe affected the growth of other stocks?

In the United States, no doubt, the Indians have decreased while the whites increased. The same has been true of the native stock in the West Indies, Australia, and many islands of the Pacific. This has happened in so many cases, especially in temperate regions, that popular opinion probably believes it to be the prevailing result of the expansion of Europe. But that is a mistaken view. On the contrary, the net result of the expansion of Europe has been an enormous increase in the aboriginal population of the lands to which they have gone. A brief review of the evidence on this point for some leading areas will show that the popular opinion to the contrary has no adequate foundations.

United States. Exaggerated estimates have often been made of the number of Indians living within the present area of the United States about 1500 A.D. These estimates have gone as high as 25,000,000, and the usual unit employed in making them has been a million persons. But not long since, a very careful study of the subject was made by different persons in the United

States Bureau of Ethnology, under the direction of Major J. W. Powell, and the conclusions reached that the number of Indians then in the present United States was "somewhere between 500,000 and 1,000,000," and that there are now in the United States "about half as many Indians as when the good queen sold her jewels." If we accept the mean of the two figures as the most probable estimate for 1500, and the enumeration at the last federal census, 265,683 as correct, this would indicate a decrease of about 500,000 Indians in four centuries.

Canada had 110,000 Indians and Eskimo in 1913, and it may fairly be doubted whether they were much more numerous on the same area in 1500. The evidence, arguments, and conclusions of the United States Bureau of Ethnology apply in the main to the northern neighbor with the additional fact that the staple food plant of the Indians, maize, did not and does not thrive in Canada.

West Indies. The Indian population of Cuba at the date of its discovery has been variously estimated at between 200,000 and 1,000,000 and that of Porto Rico at between 100,000 and 600,000.⁶ The smallest of each pair of figures is probably too large. This was clearly the opinion of Alexander von Humboldt regarding Cuba, and he is the best critical student who has examined the subject. His results are confirmed by more recent conclusions in other fields. Probably 500,000 would be much too large a figure for the entire aboriginal population of all the West Indies at the time of their discovery.

Mexico. The best source of information is Alexander von Humboldt, who passed a year in Mexico in 1803-1804, and who examined the question of population with care and critical acumen. I have found no estimate of the population of the present Mexico at the time of Cortez and believe that no materials upon which to base one are extant. But Humboldt is willing to affirm that "the whole of the vast region, which we designate by the general name of New Spain (Mexico) is much better inhabited at present than it was before the arrival of the Europeans."⁷

The evidence offered for the conclusion is the spread of agriculture in Mexico to large, fertile and well-settled districts which before the Spanish conquest were sparsely settled by pastoral or hunting tribes. The same authority concludes that the number of Indians in Mexico had been on the increase for the preceding

⁶Census of Cuba, 1899, p. 65. Census of Porto Rico, 1899, p. 23.

⁷Political Essay on New Spain (English translation), vol. I, p. 71.

fifty years, as he put it in one place, or for the preceding century, as elsewhere stated, the evidence being derived from "the registers of capitation or tribute."

At the beginning of the nineteenth century he estimated: "The number of Indians in New Spain exceeds two millions and a half, including only those who have no mixture of European or African blood."⁸ It is usual to assume that about 37 per cent of the present population of Mexico is of pure Indian blood, which would mean nearly 5,200,000 Indians,⁹ and a doubling of the pure Indian population of Mexico during the nineteenth century alone. However wide a margin of error we may ascribe to these figures, it seems to me indisputable that the increase of the pure Indian population of Mexico since 1500 has been so great as more than to offset the decrease in other parts of North America, including the West Indies. If so, the pure Indian population of North America has increased in the last four centuries.

What is true of North America holds with even greater force of South America, which contains no such vast areas as the eastern United States and Canada from which the Indians have been driven, and no areas, like the West Indies, formerly well settled in which the Indians have been exterminated. On the other hand, the processes of race mixture have gone further in South America than in North America, and it is impossible to show how much pure Indian blood remains in that continent. From various figures in the *Statesman's Year Book* and elsewhere I have estimated them as 6,700,000 and the entire number in the western hemisphere as 13,600,000. A. H. Keane reaches a much smaller figure, 9,900,000,¹⁰ and Bryce a much larger one, 16,000,000—17,000,000.¹¹ But I see no reason to believe that the number in 1500 A.D. approached 10,000,000. I conclude, therefore, that the influx of whites into America, while it may not have caused, has certainly been accompanied by, an increase of the Indians in that hemisphere.

Australasia. The migration of the European to Tasmania, Australia, and New Zealand has been attended by a decrease, and

⁸ *Op. cit.*, p. 98.

⁹ Bryce estimates 8,000,000 Indians, excluding mixed bloods in Mexico (*South America*, p. 438).

¹⁰ Mill's, *International Geography*, p. 106.

¹¹ Bryce estimates the pure Indians in South America at 8,000,000—9,000,000 (*op. cit.*, p. 439).

in the case of Tasmania a disappearance, of the aborigines. The numbers of the latter were small, 200,000 being, I judge, an outside estimate for the three areas.

To find an offset to this decrease of aborigines in Australia and New Zealand we need go no farther than *Java*. This island increased its population, the great mass of whom have no trace of European blood, from about 4,000,000 in 1800 to about 30,000,000 in 1905. It is less than one third as large as California, contains not one great city, and yet has nearly thirteen times as many inhabitants as this state, or about one third as many as the whole United States. This single case of increase in the aboriginal population of Java under the influence of Europe is enough to outweigh all known decreases in all other parts of the world several times over.

Changes of a similar sort but not so remarkable have been in progress in the *Philippine Islands*. "The earliest complete enumeration of the islands appears to have been . . . made in the year 1591." It showed a population of 667,000 and it is thought that this was, if anything, an exaggeration of the true numbers. "Their ancestors probably did not number more than half a million at the time of the Spanish settlement."¹² There are now about 8,500,000 persons of native stock in the archipelago.

For *India* I have found no evidence upon which to base an opinion whether the people before they came under the political control of European countries were or were not increasing in numbers. But since that time it is certain that the population has greatly multiplied. The first census of India—that of 1872—showed a population of 186,000,000 but this was probably an understatement. The estimated population of 1851 was 178,500,000; that enumerated in 1911 was 244,000,000, an increase of 66,000,000 in 60 years, due in part to annexations of territory, but mainly to increase on the same area.

In *Egypt* a similar change is in progress. The population in 1800 was estimated by the French at 2,460,000. The population in 1907 was counted by the English as nearly 11,000,000, a more than fourfold increase in a century during which Europe little more than doubled its population. After the English took control of the finances of Egypt in 1882 the increase was more than twice as rapid as before that date.

Changes less remarkable but of a similar sort are in progress in

¹² *Census of the Philippine Islands, 1903*, vol. I, p. 411.

Algiers. In that colony, although French, Spaniards, Jews, and Italians constitute large and increasing groups of European population, yet the Mussulman population of native stock increased from 2,850,000 in 1881 to 4,750,000 in 1911, about two thirds in thirty years and double the rate in Europe. A similar change has occurred in the southern end of the same continent about which Mr. Bryce wrote me a few years ago: "A striking illustration of your doctrine is furnished by *South Africa*, where the Kaffir population has enormously increased with the spread of British dominion. It is probably four times as great now between Delagoa Bay and Cape Town as it was in 1808."

The expansion of Europe thus has stimulated more often than retarded the increase of the aboriginal population. This influence has been exercised by the Spaniards in Mexico and the Philippines, by the Dutch in Java, the French in Algiers, the English in India, Egypt, and South Africa, and probably by the Portuguese in Brazil. Colonization by the Belgians, Germans, and Italians is a recent phenomenon. This may explain the lack of evidence for an increase of native races under the rule of these countries. In many cases the tendency of colonizing powers at the start has been to impose a rule so rigid or so unsuited to the conditions as to decimate the native population.

In Mexico, Central and South America, and to a less degree in other parts of the world, this expansion of Europe has resulted in the appearance of other millions of *mixed* blood, of whom Keane reckons in the western hemisphere 12,270,000, Bryce some 19,000,-000, and I more than 20,000,000. But the figures are too uncertain to serve as the basis of an argument.

Another aspect of the expansion of Europe should likewise be considered. The Europeans forcibly carried with them to America people from Africa, and the western hemisphere now contains more than 18,000,000 *Negroes*.¹³ North America with the West Indies has about two and one half times as many Negroes as Indians. These Negroes have increased with much greater rapidity than the Negroes in Africa or the Indians in America and almost as fast as the whites in America. If an increase of population be deemed a test of prosperity, then the Negro population of America has prospered in its new home.

¹³ Keane estimates them as 20,000,000, doubtless by assigning to that race several millions of the mixed population of Central and South America, especially Brazil, whom I have included in a different class.

In one instance the expansion of Europe has taken another form, the acceptance by a native people of the main industrial and economic features of European civilization. In the latter half of the nineteenth century the *Japanese* did this and the results upon the increase of the Japanese population have been impressive. Three censuses of Japan are said to have been taken, in 1721, 1726, and 1732, each showing a population of between 26,000,000 and 27,000,000. These results are believed "to be somewhat trustworthy." A century later another census was taken showing a population of 27,200,000, and indicating that for the preceding century the population of Japan has been almost stationary. In 1871, only three years after Japan had been opened to the influence of foreign trade and of modern European institutions, the population was returned at 32,900,000, and in 1914 it was 53,700,000. There are thus two periods, each of 43 years, one just before and the other just after the opening of Japan to influences from Europe. In the later period population increased three times as fast as in the earlier.¹⁴

Limitations of time forbid the further enumeration of instances. But those already given may suffice to show that, as a rule with only minor exceptions, wherever Europe has gone with its outflowing currents of population, its governmental institutions or its influence, there the population, both European and native, has felt the influence as a stimulus and has increased marvelously.

The evidence indicates also that in China, the one great body of population which has remained to this day almost impermeable to European influence, population has increased little or not at all. The only other region about which it seems well to say a word is the heart of *Africa*.

The estimates for the total population of that continent furnish a noteworthy contrast to those for Europe's. Thus the best authority estimated the inhabitants of Africa in 1882 as 206,000,000, in 1891 as 164,000,000, in 1901 as 177,000,000, and in 1914 as 136,000,000, or a reduction of 70,000,000 in 32 years. During the same period the population of the dependencies fringing Africa and controlled by some European state, such as Egypt, the Barbary states, and South Africa, has rapidly increased, so that the estimates for the independent or semidependent states of the interior must have fallen by more than 70,000,000. Whether this is

¹⁴ Count Yanagisawa, "On the Progress of Statistics in Japan," *Bulletin of International Statistical Institute*, vol. XII, pt. 1, p. 349.

due to an actual decrease of inhabitants or to an increased accuracy in what had been gross overestimates does not appear; but probably both influences have been at work. There is no question but that in Central Africa of recent years there have been terrible losses of life. The Mahdist revolt was most destructive. "About three fifths of the whole population are said to have perished during the ten years from 1882-1892 through wars, famines, epidemics, plundering expeditions and other calamities caused by the Mahdist revolt,"¹⁵ which would mean a loss of 6,000,000. This influence was local but the overland slave trade is not dead and is probably more destructive of life than the maritime slave trade ever was. A majority of the slaves who start on a caravan are said to perish on the road. Yet another check to population almost universal among the native tribes of Central Africa is executions for witchcraft. Miss Kingsley tells us, "The belief in witchcraft is the cause of more African deaths than anything else. It has killed and still kills more men and women than the slave trade."¹⁶

The net result of the inquiry is to show that where the influence of Europe has not been deeply felt, notably in China and Central Africa, population has been nearly or quite stationary or has actually decreased, and that where its influence has been felt at home or abroad among immigrants or natives by way of political domination or by voluntary imitation, there population has rapidly multiplied. The evidence indicates that two centuries ago the population of the earth was not far from one billion, now it is nearly or quite one billion and two thirds. This addition of 650,000,000 to the world's population is the best measure and at the same time the best justification of the expansion of Europe.

A claim more ambitious may be made. This multiplication of mankind, emphasized long ago by Adam Smith, is the only quantitative evidence we have of human progress which can be now applied even crudely to the earth as a whole. May I compare it briefly with two other criteria? Lord Acton said that a compendious test of improvement was to be found in the prolongation of human life. To only a few countries can that test be applied, and of them the United States is not one. If we believe that the average length of human life is greater now than formerly, we believe it because the evidence for certain countries or cities

¹⁵ A. H. Keane in Stanford's *Compendium. Africa*, vol. I, p. 419 (1895).

¹⁶ Mary Kingsley, *Travels in West Africa*, p. 463.

embracing a small minority of the earth's population shows it to be true of them and warrants the extension of the result to the rest of the world. Thus, if we believe that human life is longer than it used to be, we are far from knowing it and have no inkling of how much longer it may be.

Lord Bryce suggests that the amount of human happiness, or the proportion of persons who, at the end of life, would like to go through it again if they could, is a test of progress. But no one can apply this test and to my thought a poor criterion which gives an answer is preferable to one theoretically better, but yielding no result. And the two tests are entirely consistent. In any form of sentient life, happiness is the subjective result of adjustment and unhappiness of maladjustment to environment. In any form of sentient life, also, an increase of the individuals is evidence of adjustment and a decrease is evidence of maladjustment. Both increase of happiness and increase of numbers, then, show a better adaptation to environment, and where numbers have increased we may infer the increase of human happiness.

If this argument is sound, the increase of the earth's population in less than two centuries by about two thirds of a billion persons, is the only quantitative test and proof of the progress of mankind. This evidence is a by-product of national census-taking which originated at the birth of the United States and is now substantially co-extensive with the civilization of Europe.

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A THIRD FACTOR IN THE VARIATION OF PRODUCTIVITY: THE LOAD FACTOR

I. The place of the load-factor concept in economics.

The load factor, as defined by electrical engineers, is the ratio of average to maximum load for some specified period. More generally expressed, it is the ratio for a particular good or service of the average demand (in the sense of "demand" as used in economics) through a period of time to the greatest demand at any one time within the period. This concept, as it applies in relation to the commercial supply of electric energy, will be dealt with more in detail below.

It is the purpose of this article to discuss not the load factor as such but rather the extent to which a consideration of the principles involved may disclose ideas that are of general applicability in economics. We owe the term to the electrical engineers. But it is not impossible that economists will prove the better interpreters of an idea that relates so definitely to economic technology.

The load-factor concept relates to a very important subject in economics—to no less a subject than the variation of the productivity of material agents. First in respect of both date of discovery and of fundamental importance among the principles governing the variation of productivity is "diminishing returns." Second is the economy of large-scale production, often none too aptly referred to as a principle of "increasing returns." We are not here concerned with the limitations under which these principles operate, but it should be noted that the second is of less general significance than the first. The "load factor" refers to a third important phase of the variation of productivity, distinct from each of the others, though perhaps not so general in scope. In brief, cost per unit of product varies according to : (1) the difficulty of obtaining the services of relatively scarce agents of production; (2) the magnitude of the commercially practicable scale of production; and (3) the degree to which the conditions of economic demand, apart from maladjustment of the supply of productive capacity, permit the full utilization of such capacity. It is with the third phase of the variation of productivity and cost that this article deals.

The terms ordinarily employed to designate the first two of these factors are open to objection, being insufficiently definite in

meaning and not lending themselves to generalization. "Diminishing returns" and "increasing returns" are not actually, as the words suggest, the opposites of each other, for in the one case the reference is to a given area of land (or quantity of other productive agent) and in the other to the unit of business enterprise. Farms, as cultivated more or less intensively, may at the same time exhibit both diminishing returns and increasing returns; that is, the return per laborer or per \$1000 of capital employed upon the land may be relatively smaller on the more intensively cultivated farms than on those under less intensive cultivation, but managers may find more scope for organization and directive ability in the former case so that their net returns are greater than in the latter case. The combined return will exhibit the more or less balanced result of the action of both factors. The commercial value of services and products has no necessary connection with the phenomena in question, though it happens to be convenient to measure quantity of capital in terms of dollars.¹

The applicability of the principle of diminishing returns, moreover, has been restricted to agricultural land by the classical economists in ways that are of practical significance as well as of great historic interest. Such restrictions, even if not entirely logical, inevitably make the term less suitable for the general concept.

I have therefore sought other names for the two familiar factors in the variation of productivity, and will in general refer to the first as the *proportionality*² factor; to the second as the *density factor*. A third, of course, is the *load factor*. There is an evident advantage in having the form of all three terms thus parallel.

¹ Commons, for instance, in his *Distribution of Wealth* (1893), pp. 158-159, is inclined to extend the principle of diminishing returns to the highest degree of generality by measuring return in pecuniary instead of physical units. This in effect confounds diminishing returns with diminishing utility and deprives the former of its distinctive content. See also the following footnote.

² Cf. Carver, *Distribution of Wealth* (1904), p. 65, where "proportions" is used in this way. Wicksteed, *Common Sense of Political Economy* (1910), bk. II, ch. 5, acutely criticises the older ideas of increasing and diminishing returns and gives some effective illustrations of the latter as a matter of proportionality. But his statement that the latter is a "sterile proposition" is ill-considered, and he is too ready to accept pecuniary measures of the quantities whose variation is in question as sufficient. Davenport, in *Economics of Enterprise* (1913), ch. 23, discusses the "law of proportions" as a technological as well as a pecuniary matter, though he overemphasizes interpretation in terms of price.

The development of the idea of diminishing returns, as resulting from relative scarcity of land, into a general principle exemplified wherever there is deficiency in the supply of any of the means of production, or lack of proportion between complementary agents, has come about quite recently. If we may call the more general conception the proportionality factor, "diminishing returns" properly retains its time-honored reference to land, though hardly to merely agricultural uses of land. Its phenomena are, of course, only a species of the effects of the proportionality factor. But the most important species may well have its distinctive name.

The concepts here dealt with all relate to economic technology and therefore the terms used should not suggest a different sort of thing. It might seem appropriate to call the second the concentration factor, but for the fact that this could easily be taken to refer to the financial control and direction of industry rather than to technological aspects. It is true that the large-scale manufacturing plant requires the concentration in one spot of the means of supplying a large area or an extensive market. The tendency is not ordinarily apprehended as causing density in the geographical distribution of the processes of manufacture, but, once pointed out, the fact is evident. "Concentration," moreover, does not suggest what happens when the development in population and industry of a railroad's territory gives it more traffic and larger profits. Hence "density factor" seems to be the term most generally applicable and least likely to be misunderstood in referring to the second principle. "Large-scale production" in its narrower sense is not intrinsically objectionable—though density rather than volume of transactions is what is really important—but the phrase has not the desired parallelism with its congeners and it also has been applied to describe "combination" or concentration of control, which is a different matter and an affair of commercial policy rather than of economic technology.³

In one important particular the scale factor is different from what we may call the density factor in the narrower sense. The scale on which an ordinary manufacturing plant is constructed can be voluntarily determined with reference to the existing or immediately prospective degree of condensation of demand or to

³ Bullock's term for the effects of the density factor is "the law of economy in organization" ("The Variation of Productive Forces," *Quarterly Journal of Economics*, vol. XVI, 1901-1902, p. 472).

the "extent of the market." In the case of services rendered in a particular locality, on the other hand, the capacity of the plant will most likely be determined chiefly by technological considerations, and its full utilization will wait upon the growth of demand, which in turn is dependent chiefly upon growth of population. Therefore the density adjustment is in this case largely passive. When there is a material product susceptible of transportation, furthermore, the process of condensing the demand from larger and larger areas facilitates the deliberate exploitation of density-factor economies in a way that is not open to the "service" industries. But a distinction between the density factor and the scale factor along this line would be chiefly a matter of emphasis. They are, at any rate, species of the same genus, or varieties of the same species.

Whether it is desirable to make a distinction between the density factor and the scale factor is important in this connection only in relation to the use of the former term in the more general sense. Mass is the product of density times volume, density being a ratio. But "place" must be taken in a liberal sense in economics, according to which sense scale (or mass) and density become practically synonymous. With reference to the density factor, condensation relates not to a given area, still less to a given number of cubic feet, but to a "place" that may include any convenient number of contiguous or associated acres, the limits of the place being determined merely by the possible extent of one management.

The relation between the three factors is summarized in the following tabular statement:

DESIGNATION OF PRINCIPLE	CONDITION TO WHICH IT RELATES	HOW DEALT WITH PRACTICALLY
<i>Proportionality factor</i> Diminishing returns	Degree to which relative quantities of various economic agents used in conjunction with one another are strained, especially with reference to the crowding of specific quantities of the most costly ones.	Tendency to increase in unit cost held in check or reduced by substitutes and by straining the proportion in which agents are best combined.

Density factor
 Extent of the market
 Increasing returns
 Large-scale production
 Economy of organization

Degree to which the quantity of the product demanded at a given place admits of or promotes the most economical organization and scale of operations.

The advantages of lower unit cost are gained by transporting the product greater distances or they develop automatically with increasing density of population or increasing general purchasing power. Price differentiation is to some extent used to promote sales.

Load factor

Degree to which conditions of demand and the cost of keeping products permit continuous operation of plant and of individual machines, etc.

Invention and application of means of storage. Diversity of uses develops along with density to a considerable extent automatically, but especially price-differentiation is deliberately employed to smooth out and promote the continuity of demand. Educating the consumer to greater regularity in purchasing counts for something.

II. The load factor in relation to the supply of electric energy.

The term "load factor" was invented and its use has developed in connection with electrical supply. The load factor is always, either explicitly or by implication, a determining consideration in electrical rate making. The term has been rather loosely used. The authoritative definition of the Standards Committee of the American Institute of Electrical Engineers adopted by the Institute is: "The load factor of a machine, plant, or system is the ratio of the average power to the maximum power during a certain period of time." It should be noted that the reference is to economic determinants, that is, to conditions governing the variation of demand, without more relation to generating capacity than is involved in the assumption that it is sufficient to meet the maximum requirement.

The connection between the load factor of a central station and the kilowatt-hour burden of the charge for fixed capital is evident. The load-factor ratio may be stated as a ratio (per cent) or as a certain number of hours' use of the maximum demand. In something like this latter form, that is, as average hours' use per day of connected installation, it is frequently explicit in electrical rate schedules. But the consumer's connected load, or some

defined fraction of it, is usually, in this application, the makeshift representative of the second term of the load-factor ratio. It is obvious that a company with consumers using twice as many kilowatt hours as the consumers of another company having the same system maximum will require but half the generating capacity of the latter per kilowatt hour distributed and will thus be free from a heavy burden of fixed charges, to mention only one element in the consequent saving.

To illustrate the range of variation of the load during 24 hours, we may cite figures for the New York Edison system in Manhattan and The Bronx. Because of the density and diversity of the consumption of electricity in this territory, the range of variation is less than for but few favorably situated companies. The data of hourly output for clock hours as averaged for four December, 1913, work days excluding Saturday, this being the period of heaviest demand, show a maximum hourly output of 183 per cent of the average and a minimum of 34 per cent, the range of variation being thus 149 points per cent. The diurnal load factor of nearly 55 per cent (100/183) is, of course, exceptionally good. The annual load factor of the system in 1913 was about 34 per cent.⁴

It is for the best interest of an electrical company so to adjust its rates that consumers at off-peak times—that is at times when the load is light or at any rate less than the maximum—will obtain some benefit from the comparatively low cost per kilowatt hour of energy supplied to them. If one consumer uses electricity for a single hour a day and another for five hours, and if their kilowatt demand or utilized connected load is the same, the burden to the company on account of the fixed investment is five times as great per kilowatt hour for the first as for the second consumer.

The above paragraph contains a hint of a necessary qualification. If the 5-hour consumer takes his current steadily from 12 noon to 5 p. m. and the 1-hour consumer from 5 to 6 p. m., the company is benefited rather than otherwise by the nature of the demand of the short-hour user. If the needs of the long-hour consumer were of decisive importance in causing the investment to be made, then the sixth-hour consumer, causing no additional investment, might be said not to impose any additional cost on ac-

⁴ Vol. III of the *Annual Report of the New York Public Service Commission of the First District for 1913*, p. 54. The data for the preceding comparisons are shown on pp. 60-61 and, in more available shape, in Diagram II.

count of capital charges. The load factor of an individual consumer does not sufficiently determine the fixed cost he imposes unless his maximum load or the peak of his demand comes at the same time as does the system peak.

The diversity factor takes account of the difference in time between the peak of the demand of a consumer or class of consumers and that of the central station. It is defined by the Standards Committee of the American Institute of Electrical Engineers as "the ratio of the sum of the maximum demands of the subdivisions of any system or part of the system to the maximum demand of the whole system or part of the system under consideration, measured at the point of supply" (that is, at the common point). The importance of diversity to the theory of rates is evident from the illustration above given.

It is, of course, the peculiar nature of the commercial supply of electric energy that has led to the development and use of load-factor concepts here rather than elsewhere. The fundamental peculiarity is the economic impossibility of providing electric energy ahead of demand and storing it at will until the consumer wishes to use it. Most goods can be stored, though at more or less cost. Electric energy for ordinary use can not be economically stored to any considerable extent. Hence the problem of the electrical enterprise is so to develop and train economic demand that it will largely adjust itself to the conditions of supply instead of, by its arbitrariness, increase costs in a way that must ultimately react to the disadvantage of the consumer. The unit cost of interest and depreciation is not correctly calculated when simply prorated over the kilowatt hours taken.

Another element in the situation which favors the development of load-factor concepts in the electrical industry rather than elsewhere is the very large portion of total unit-cost that is made up of carrying charges for fixed investment, that is, of interest and depreciation. In respect of the dominant importance of capital (in the large sense, including land) as compared with labor employed, railroads probably rank higher than any important branch of manufactures. But this ratio is almost as large in the electrical industry as it is for railroads. For hydro-electric plants it is doubtless often much larger.

The central-station electrical industry, furthermore, is conspicuous for a very high rate of depreciation, especially so if this

term is used to cover obsolescence. Hence fixed costs per unit of product, which can not be neglected with impunity in any industry, are of greater importance in the electrical branch than anywhere else.

Why, it might be asked, have load-factor concepts developed in connection with the electrical industry rather than with the railroads? In both cases we find highly developed systems of differential rates that seek to distribute the burden of fixed charges unevenly in a way the public is prone to think unjust. The dominant importance of fixed capital is the fundamental factor in both cases. But the policies at the foundation of the classification of freight can not be reduced to quasi-mathematical rules. The elasticity of the demand for carriage is not an engineering but an economic fact. There is no difference in physical cost for the carriage of different kinds of freight of given weight and bulk for equal distances. Differential rates have been developed in order the more fully to utilize the railroad plant. But the policy has little reference to time, and is certainly not primarily intended to provide work at slack times. The time adjustment may, if necessary, be effected by delay in transmission. The economic nature of the problem appears to be generically the same for the railroad and for the electrical company in the sense that both are striving fully to utilize an existing plant, but in the one case the time of demand is of little importance while in the other it is all-important. Of course the elasticity of the demand of a particular class of users of electric current will not fail to be considered by an electrical company in determining to whom low rates shall be offered, but this element of the situation is generally quite overshadowed by regard for load and diversity factors.

In order to improve its load factor, an electrical company will offer low rates for uses that normally require off-peak service, especially if such uses are new and developing. Beginning with street lighting, the electrical-supply business has gradually extended to commercial lighting, domestic lighting, industrial and other motor or power uses (such as elevator service), storage battery service for automobiles, various domestic appliances, and, finally, refrigeration. The last-mentioned is perhaps the prospective field of large importance next to be occupied. Electric heating on a sound economical basis seems to be a thing of the more remote future. Most of the applications mentioned, especial-

ly the later ones, have been favored with special attention and low rates by electrical companies.

An economic interest in load factors need not take us further into details. It is the purpose of this paper to deal with the generalizability of such concepts, not with their application to a particular industry or community.

It is worth while to mention in this connection the "capacity factor." This may be defined as the ratio of the average output of a given period, usually a year, to the theoretical potential output, supposing continuous use of rated capacity. This is not of peculiar importance to the electrical industry. Nor is it of theoretical interest for the study of load factors. The idea, however, serves to correct a possible mistaken inference from these ratios as ordinarily computed. No electrical plant could run at full capacity for every hour in the year. When there is no available reserve capacity, the realized capacity factor is the same as the load factor. The greatest physically practicable capacity factor marks the limit of possible utilization—supposing load and diversity factors so ideal that operation can be continuous so far as thus controlled by economic conditions—under existing conditions of engineering technique. The capacity factor has often been confused with the load factor. Sometimes capacity factors may be used to advantage for statistical purposes where load factors can not be ascertained.

III. Public services other than electrical supply.

The applicability of the load-factor concept to a given enterprise or kind of business depends upon two conditions.

First, there must be heavy investment in fixed capital. It is unnecessary to prove or illustrate the fact that modern industry is highly "capitalistic," in this sense of a word used also in other senses, and that it tends to become rapidly more so.

The second requirement is that the product be of such a nature that the time and the place of use can not be varied at will to suit the notions of the consumer. Any adjustment there may be must be made in advance, and if the consumer does not conform his choices to expectations, the product or service offered fails of its economic purpose. It must be used "on the spot" or immediately where and when it is made available for consumption. "Where" and "when" are, of course, to be taken in an economic and elastic, rather than a metaphysical, sense.

The enterprises of any industry that meet these two conditions have load factors, and their unit costs vary according to whether the load factor is good or bad.

In a general way it is the "public service" enterprises which fulfill the above requirements in the highest degree. The word "service" here may be taken to have substantially its usual economic sense. It is especially because the consumer can not exercise an effective option as to where and when and by whom he shall be served that such enterprises are always more or less monopolistic. The central-station electrical industry, from which the term load factor comes, is one such. All transportation agencies—steam railroads, street railroads, the merchant marine—belong in this class. The service of merchant ships is peculiar in so far as the supply may be adjusted to the variations of demand throughout all portions of the globe that are accessible to water transportation. In this case the "when" of the service is most important and the "where" rather incidental. Gas and (urban) water supply—though in these cases material commodities are placed in the hands of the consumer instead of the supply being strictly a service—constitute another class of public service enterprises. They are peculiar in that the gas and water may be stored. There is thus some emancipation from the time restriction on consumption. The telephone and telegraph are definitely and unqualifiedly of the "service" class.

It is often assumed that there is something about the political nature of public service corporations that constitutes them a class by themselves. But the fundamental reasons why they are quasi-public or "affected with a public interest" are economic. Their monopolistic power (which, however, does not hold of the merchant marine) is due to the large amount of fixed capital they require and to the impossibility of making the services of a particular enterprise available except in its own restricted area. Hence the need of public control to take the place, in part, of competition as a regulator of prices and of the quality of service. The fact, also, that the consumer, especially the small consumer, has practically no choice, but must be served by the one corporation or go without, makes him unable to protect himself against discrimination and unfair treatment.

On the side of the company, the density factor and the load factor give the railroad or other public service corporation special incentives to differentiate and discriminate in their charges.

Hence it is necessary to regulate the public service corporation with reference to the method as well as to the total amount of its charges.

The supply of water to a city might be expected to be a particularly significant illustration of the way the load factor works, because the commodity apparently costs nothing itself, aside from carrying charges for fixed capital in reservoirs and pipes and similarly invariable expenses. The physical commodity is to be had in unlimited quantity. Pumping, however, is usually required and this is a variable cost. But it is a small factor. A city's water works are generally owned by the municipality. Therefore the prices charged may or may not conform to load-factor principles or to any other principles, because the amount collected may be, as it is often called, a "tax" rather than a price. The problem of adjusting rate of supply to rate of demand in this case is seasonal and due not so much to the variation of demand as to that of supply. There is likely to be tremendous expenditure for storage accompanied by little or no attempt to regulate demand, not even to the extent of preventing waste. But the reserve supply has also largely an insurance function. And no adjustment of water rates should restrict the use of water for sanitary purposes.

The peculiarity of the relation of the water supply to demand will become more important as water comes to be extensively impounded to be used for power. In connection with long distance transmission by electricity, such a development suggests hydroelectric plants on a great scale. For such plants it is recognized that the load factor is even more important than in central-station service.

In telegraphic service the night-letter (off-peak) business at specially low rates is an interesting application of load-factor considerations. Off-peak ocean cable rates are also being tried. These policies are adopted with the express purpose of lowering cost by improving the load factor. Emphasis upon such matters, if not attention to them, is a matter of recent years.

The telephone has been recognized as peculiar among public service enterprises, because the density factor that increases the proportion of profits as business increases does not seem to operate here as certainly as in other cases. But this is owing to the rather unessential circumstance that the subscriber was originally taken as the unit of service instead of the call. The present tendency is towards measured in place of unlimited service, at least in large

cities, where the rate per subscriber is in effect merely a guaranteed return. The pressure of the daily telephone peak in cities is of great importance, since an overload can be taken care of only by developing human capacity, or by delay. Commercial methods of depressing the peak have not been developed.

The relation of the load factor to the steam railroad rate schedule is rather incidental than of fundamental importance because the density factor is here of more decisive influence than the other. Carrying charges for fixed capital which it is desired to utilize more fully are still the controlling element in the situation. The result of both factors is differential rates, but of two different types. In steam railroad practice the principal aim is to increase business and the dominant consideration is regard for what the traffic will or will not bear. An electrical enterprise is also interested in increasing the load but is, or should be, much more interested in equalizing it. A railroad may double its freight without any appreciable addition to its investment except for rolling stock, and the required increase for that, owing to the opportunities of the back haul and of partly filled cars, may be much less than 100 per cent. An electrical company must double its generator capacity to provide for such additional demand, unless it improves its load factor. Its investment for transmission and distribution is less likely to be much affected, thus resembling the track and roadway of a railroad.

But the load factor does somewhat affect the rate policy of railroads. Excursion rates at particular seasons are explicable by reference to it. Differences in respect of the load factor also are doubtless one reason for a higher charge for passenger service than for non-perishable freight. The seasonal variation of the amount of traffic⁵ is one consideration in freight classification, but this is no doubt governed in the main by regard for the density factor. The economy of fully loaded cars and of longer freight trains, which has been much emphasized of late, is an affair of the load factor. The diurnal variation of one sort of passenger demand is important for steam roads terminating in large urban centers with considerable commuting population. Passenger stations may have to be specially adapted to the volume and character of commuter traffic.

⁵ Cf. Ripley, *Railroads; Rates and Regulation*, p. 100, for an illustration of the importance of this factor as indicated by the variation of gross and net revenues from month to month.

In street railway service there are some peculiarities from which the usual 5-cent flat rate may distract attention. The problem of the daily traffic peaks or "rush hours" is familiar.⁶ The overloading of street cars to meet the peak is less restrained by physical conditions than in the case of electrical machines. While the careless overloading of a generator harms the property of the corporation, the rush-hour street railway overload merely causes discomfort to the passengers. Hence the perennial plaint of the strap-hanger. In fact, the street railway can not economically give the same grade of service at the rush hour as at other times. The attempt to do so would greatly increase unit costs for such passengers. The street railway has to do also with some specifically electrical peak problems, but they are comparatively unimportant and of engineering more than of economic interest.

Investors are sometimes misled by observing the conspicuous density of traffic under peak conditions into providing large amounts of capital with regard to such conditions rather than with regard to average demand. The great seasonal demand for transportation from New York to Coney Island, for example, doubtless caused the too rapid supplying of facilities for this traffic some thirty years ago.

Any measure that will effect a smoothing of the transit load has great economic advantages. Whether hours of employment of different sorts of labor could be adjusted with reference to this situation is an interesting question. The facetious classification of morning commuter traffic as consisting successively of "works, clerks, and shirkers" has an element of interest in this connection. The adjustment of railway rates with a view to effecting a reduc-

*It is of interest to note that John Hopkinson—to whom more than to any other individual the appreciation by electrical men of the importance of the load factor is due—in his pioneer discussion, uses a railway illustration to make clear his meaning, as follows: "For example, the Metropolitan District Railway must be prepared to bring in its thousands of passengers to the City at the beginning of the day and to take them back in the evening, and for the rest of the day it must be content to be comparatively idle. In this case the services cannot be stored. The line must be of a carrying capacity equal to the greatest demand, and if this be great for a very short time the total return for the day must be small in comparison with the expense of rendering the service. In such a case it would not be inappropriate to charge more for carrying a person in the busy time than in the slack time, for it really costs more to carry him." See his paper "On the Cost of Electric Supply" in *Original Papers*, vol. I, p. 256.

tion of the peak—daily, weekly, or seasonal—would doubtless encounter a good deal of prejudice, though higher Sunday rates are not unknown.

The collection, transportation, and delivery of mail constitutes a service in which the load factor is of great significance. Here the labor element is a more important consideration than the fixed capital directly involved. But promptness of service is of first importance. Hence the problem of the Christmas peak. One reason for the establishment of the parcels post was doubtless the desire to use more fully an expensive organization, but with reference to the density factor rather than the load factor. Whether the present classification of postal rates, with distance disregarded except for parcel service, is economically sound is perhaps questionable. It is merely a historical product and not well thought out.⁷ The extension of the parcels classification to books, however, remedied one conspicuous anomaly.

IV. Other business enterprises.

The principle once grasped, it is seen that the load factor is significant throughout modern industry, though it does not attract attention to itself by a peculiar system of rates or prices except in electrical supply.

There are some industries in which continuous operation throughout the 24 hours of the day and the 7 days of the week is practiced. However, this involves the employment of two or three shifts or sets of laborers and night work, both of which conditions count against such a continuous use of fixed capital. Hence where 24-hour work is the rule, some other consideration than economical use of capital dominates the situation. It is, for example, only an incidental and minor advantage of the running of blast furnaces 24 hours a day that by such continuous use there is some small saving of interest cost. The ordinary manufacturing plant, a cotton factory, for example, resorts to night work only when there is pressure of unusual demand.

In the case of the ordinary factory, the problem of the full utilization of capital is a question of what to do in slack times, especially slack seasons. The retention of a trained labor force through the dull season is often an important consideration. Manufacturing "for stock" is of course the ordinary recourse, but

⁷ The report of the Commission on Second Class Mail Matter (transmitted to Congress February 22, 1912) shows this among other things.

the determination of how far this process shall be carried, or of what selling and other devices may be adopted to prevent the accumulation of too large a stock, comes up, and is indeed substantially the same old load-factor problem in its seasonal aspect. If the product of the factory is not a standard article but is subject to the caprice of fashion, it does not pay to manufacture much ahead of actual orders. Thus throughout the field of manufacturing, although continuous utilization through the hours of the day is seldom to be considered, the seasonal load factor is more or less important.

It happens that New Jersey's Bureau of Statistics of Labor and Industries gathers and publishes some statistics indicative of load-factor conditions in various branches of manufacture. The ratios are really capacity factors, but they illustrate the point under discussion. In the 1910 figures, which are the ones at hand, the average figure for all industries was 74.92 per cent and for 25 specified industries 74.00 per cent.⁸ The minimum ratio was 64.42 per cent, for structural steel and iron, and the maximum 88.12 per cent, for paper. These figures are doubtless based upon the use of the plant by a single set of workmen, without alternating shifts, and for the usual number of working days in the year, such use being rated 100 per cent.

The Massachusetts Bureau of Statistics publishes similar data for "days in operation."⁹ The following is quoted from the report for 1910:

In 1910, exclusive of Sundays and holidays, there were 305 working days, and all of the important industries reported short time to a greater or less extent for the year. Establishments in the boot and shoe industry, exclusive of cut stock and findings, were operated on an average 283 days; Cotton goods, including cotton small wares, 280 days; Foundry and machine shop products, 296 days; Leather, tanned, curried, and finished, 282 days; Paper and wood pulp, 274 days; and Woolen, worsted, and felt goods, and wool hats, 271 days. Establishments manufacturing Electrical machinery, apparatus, and supplies, were operated 297 days, and Jewelry establishments about 287 days. In some of the smaller industries, such as Malt liquors, Show cases, and Musical instruments and materials, not specified, we find practically continuous employment. On the other hand, in Brick and tile, a seasonal industry, the establishments were operated only about half time, or 153 days on an average. Lumber and timber products shows an average of 247 days.

⁸P. 31 of the annual report for 1911. The ratio is termed the "proportion of business done."

⁹*Twenty-fifth Annual Report on Statistics of Manufactures*, p. xxvii.

Reduced to terms of per cent these figures, in order, are as follows: 92.8, 91.8, 97.0, 92.5, 89.8, 88.9, 97.4, 94.1, 50.2, 81.0. These ratios are, of course, not directly comparable with a central-station load factor.

It has already been intimated that these are strictly a species of capacity factor, rather than load-factor figures, and that the conception of continuous operation underlying them needs to be made explicit. Doubtless a large proportion of manufacturing establishments have some reserve capacity to provide for future growth. The only suggestion the figures themselves contain as to what allowance should be made for this is that possibly the largest average ratio for an industry would fall short of 100 per cent only by the average amount of the reserve in question, and that this reserve ratio would vary only slightly as between the averages of the different industries. But the strict annual load factor would take no account of fluctuations of demand due to "trade cycles" covering several years, though this rather than the seasonal variation may be of most importance in causing an uneven and usually short load for efficient manufacturing plants.

Though not so named, the diversity factor is very commonly of recognized importance in ordinary business, and its importance presupposes the importance of the load factor. One advantage of the department store over the specialty "shop" is that it can shift the disposition of space and clerical force according to the season's needs, thus improving its annual load factor. The profitability of commercial banking is entirely dependent upon the diversity of the demands of depositors for funds. A reserve of \$100,000 will under most circumstances easily meet aggregate possible demands five times as great.

The variation of demand may be weekly, but if this is a matter of a Saturday afternoon and Sunday discontinuation of operations, that is no more thought of than shutting down over night. If the variation is the reverse of this, so that there is a marked Sunday peak, then the effect is likely to be noticed in a stiffening or increase of prices. Reasoning rather short sightedly, the public is likely to think that any such increase in unit prices at the period of largest demand is extortionate. We can not be sure that under these circumstances the commercial motive will not lead to attempting to make too much of the opportunity, but there is also the other side of the matter, namely, the question as to what can be done with the investment and the time of those engaged during

the unprovided for five or six sevenths of the week. Such sixth or seventh-day enterprises, however, are often merely auxiliary occupations and even the undertakings of children. The holiday sale of drinks, fruit, and confections in suburban "park" resorts is the most conspicuous instance of this sort of thing. But this graduates into restaurant and hotel-keeping for similarly variable weekly and seasonal demands.

Not long ago a certain London hotel advertised the quality of its service as being the best obtainable because its good load factor so reduced its average costs. Whether this is as good advertising as it is good economics may be doubted. It certainly is true that the price for a hotel supplying the needs of transients can not be other than high according to a close comparison of the actual with the theoretically possible use of the investment. Hence Swiss mountain hotels and Jersey coast resorts, once thought of merely as places to go in summer, are now trying to develop winter trade and thus to utilize what would otherwise be idle plant. Some nondescript statistics that happen to be at hand for Swiss hotels in 1906 show monthly capacity load factors (beds used to beds available per night) of 76 per cent for August as compared with 14 per cent for December. The Adirondack hotels also are now seeking winter guests. If we may believe the advertisers, "all-the-year-round" resorts are coming to be the usual kind.

In view of the inevitably low degree of utilization possible, what vanity is it that makes the traveler seek luxuries in hotel accommodations that he can not afford at home? Decorations and appliances that will be idle 250 days in the year must require triple or quadruple recompense for the 100 days of use. The American weakness for having "the best of everything," always traveling "first class" and going to the "best hotels," imposes a tax that only a very prosperous people could stand.

It is because of the load factor that one can get a better lunch at a restaurant which is also a saloon than at one which meets the demand for light noonday meals chiefly and for occasional evening dinners or suppers, and whose plant is otherwise unutilized for most of the 24 hours.

Since the variation of the seasons is the fundamental condition of plant growth, one would expect load factors to be especially important in agriculture. In this case it is the "industrial" demand for uses of means of production that varies, not the demand of consumers for final products. Fixed capital used in agriculture

has a poor load factor because the seasons restrict the use of any kind of agricultural machinery to a particular portion of the year. This holds even where one farmer does the reaping and binding for several neighbors. Threshing and hay pressing are less restricted, the former lasting all the autumn, the latter possibly also through the winter. Probably the chief reason why agriculture is carried on to so great an extent with poverty of appliances is because the load factor for capital used is so unfavorable. Farming can not economically be capitalistic, in one sense of the word, to the same degree as the manufacture of cloth, for example. A seeder that is passed around among neighbors and used by some of them at not just the right time is, even then, of use only during the good days of a single month or six weeks in the year.

In certain kinds of demand there is no recurrence of need. Under such circumstances it is impossible to compute a load factor, because that supposes a period of use and a permanent investment. But the economic interest in this case is of the same nature as in the case of a recurrent peak. The price paid for the use of a grand stand to view a parade must be very large in proportion to the investment. Pageants and spectacles are similarly costly. Hotel accommodations for large crowds at expositions and political conventions should not be expected "at regular rates." Monopolistic exploitation of such conjunctures, unfortunately, is much more likely. But, in the case of specially provided accommodations, there should be some allowance of extra return (in case the enterprise is successful) on account of economic risk.

The attempt to get a high price for a brief seasonal or temporary use of capital often leads to angry protests against so taxing the peak. The summer demand for extra ice and for bathing accommodations affords familiar examples. Public opinion may easily expect too much of dealers in hot-weather necessities. Holiday travel is sometimes similarly taxed. In all these matters the responsible managers of business enterprises occasionally forget that, even if the public is somewhat prejudiced—and dealers are not the best judges on this point—what is bad business policy can not in the long run be good practical economics.

V. Variation in the employment of labor.

The application of the load-factor concept to the utilization of labor force and to the explanation of certain phenomena of wages and employment is suggestive and clarifying.

The distinction between wages and salaries is not ordinarily recognized by economists as corresponding to any significant difference between these two parts of income from labor. In practice the distinction is partly a matter of social standing, and this fact tends to cause some displacement of the division line by making the salaried class more inclusive than its economic ground. The working distinction easiest to apply is that between employees on the monthly and those on the weekly pay-roll basis. But this difference is extraneous. The fundamental difference is the greater permanency of tenure of those who belong, on economic grounds, in the salaried class. This may be evidenced by a contract of employment running for a year or more. For these reasons salaries are regarded as an "overhead" charge, while the wages of "productive" labor are computed as a part of manufacturing cost as much as the amounts paid for materials. Hence wages may be paid by the hour, as materials are bought by the pound. The employer adjusts the hours of wage-work that he employs to the amount of his product that he can sell only less accurately than he does the pounds of raw material that he buys. But his attitude towards his salaried staff is markedly different, at least in degree. The distinction, however, depends on whether employees are regarded as easily replaceable and to be "laid off" when business is slack. With this goes less strict attention to hours of employment of the salaried, at least the high-salaried, class. The salaried employee, in the functional sense, is expected to work after hours as occasion demands and to give his whole energy to the business, if called upon, while, on the other hand, if business is slack he may attend the afternoon's ball game; and at any rate he expects a summer vacation with pay and, to a considerable extent, a continuance of pay during sickness. The underlying idea seems to be that the salaried man fills a position with a definite function and, within his powers, does more or less, as may be necessary in order to perform it, or at any rate has the responsibility, even if much of the detail is attended to by subordinates. But some degree of responsibility and of irreplaceability (loss in the process of replacing) extends farther down into the "ranks" of industry than is ordinarily assumed. From the number and variety of these not altogether consistent grounds of distinction it may easily be seen why the salaried class is not usually recognized as a distinct economic category.

The functions of the salaried class proper are directive, so-called

executive or administrative, technical, supervisory, and clerical. If we could well distinguish the function of responsible decision on matters of policy, that ought to supply a further descriptive adjective. As it is, "directive" must be taken to include this. Merely clerical employees are included in the salaried class, where they do not all belong functionally, for two reasons. It is chiefly by advancement from such work that the responsible positions are filled. They are also next to the more or less responsible officers or officials and reflect somewhat, and correspondingly benefit by, the importance of their immediate superiors. We are not so far away from feudal notions, and human nature has not so changed in a thousand years, but that to be menial to a king or to a "captain of industry" may give higher social rank and pay than does actual leadership on a smaller scale. The hard-handed foreman and supervisor of mechanical work may suffer in rank by reason of his direct association with the fluctuating labor force. In America we tend to pay him according to his economic value rather than his social standing, though there are plenty of people who think a bookkeeper must be worth more than a construction-gang boss. The development of the engineering professions is bettering this condition and giving the men in the mechanical department more recognition; possibly, however, too often by separating them too much from the actual muscular work. The labor, or the tried and experienced skill and knowledge, of officers and technical and supervisory staff is economically distinctive, and is not measured and dealt with piecemeal according to market conditions.

A large corporation does not dispense with its officers and important salaried employees when times are dull. Common laborers are the first to feel the effects of trade depression. The salaried class, in the proper sense, is seldom affected at all, except so far as such conditions afford occasion for economical readjustments, the causes of which are more deep-lying. Thus it happens that the larger part of the salaries paid by a corporation and chargeable to general expenses are fixed rather than variable costs. They will not change much with the volume of business done, hence the keeping of this element of unit costs low requires full and continuous utilization of the services of the salaried employees. If time and talents are not utilized continuously, there is the same sort of loss as with idle fixed capital. It happens, however, that there is one important difference between their services and the services of some kinds of fixed capital. The slackening of current demands upon

their time may give needed opportunity for study and planning for the distant future. But such planning itself is not altogether a discontinuous function and is certainly not optional. The load factor is nearly as important for "general expenses" as it is for "fixed charges" in the narrower sense.

In relation to wage-earners the load-factor point of view is most interesting as applied to explain some of the peculiar conditions of the "seasonal trades" and other occupations not so called but more or less affected by regularly recurring slack times. But the diurnal load factor also is not without significance in this connection.

The diurnal load factor for laborers is not often important because a man must ordinarily be paid for a day's labor whether he is fully occupied continuously or not. Usually subordinate uses for his time may be found, but a disinclination to do work not in the regular line is an obstacle. Waitresses are likely to be put at dishwashing at other than meal times. Men waiters are less amenable to such a use of their time. There are some important classes of occupations in which a great daily variation in demand is directly reflected in the hours of the employees. Motormen and conductors on the street cars are often required to work few hours at a time with long intervals between; and a new man may be given a run of a few hours only and paid accordingly. Usually only those who have been longest in service are given "continuous runs" for their full day's work.

A less important, but interesting, effect of load conditions appears where work has to be done at unseasonable hours, as in the case of evening amusements, the delivery of milk in a large city, etc.

The seasonal variation of demand is, extensively speaking, more important for the laborer than the diurnal variation. But it is also more easily dealt with by shifting work or combining occupations. Of course the seasonal fluctuation may not be reflected back to the labor for reasons that have already been mentioned. Even where there is a direct connection between the variation of demand and the need of labor, actual employment or pay will usually be more nearly regular or steady than is consumption. This is the case, for example, with the generation and distribution of gas and electricity.

It is in the nature of things that the seasonal trades which attract attention because of conspicuously bad conditions as to regularity of employment are those making use of little or no fixed

capital. Wherever there is a heavy fixed investment there is so strong an incentive to steady use of capital that humanitarian motives are not necessary to induce the giving of steady employment. As with the hours of work during the day, so with the season of work, time of work tends to conform to the time of utilization of the machine. If the machine is costly it is worth while to standardize products and manufacture ahead of orders. If there is no machine, then the entrepreneur has little direct interest in putting any check, for example, upon the decisiveness of the "last word" of fashion.

The common association between the seasonal trades and the sweating system is not accidental. The latter is to be described as the poorly paid work of unskilled laborers, especially of women and children, for unduly long hours, especially such work as is done in the home. Sweating is not a "capitalistic" phenomenon, if by that is meant something involving a considerable use of capital per entrepreneur or per laborer employed, but the opposite. This non-capitalistic character is just what favors putting the whole burden of the seasonal fluctuation of demand upon the laborers. As soon as the employer rents or builds and equips a factory he wishes to use his plant continuously and efficiently, hence he wants to keep a tolerably reliable force of employees and must standardize the conditions of employment and wages. Many seasonal trades will cease to be such as they become more capitalistic. There are some, however, such as the canning of perishable fruits, which must remain seasonal.

The load factor of farm machinery has been referred to above. Here we are concerned with the utilization of farm labor. The problem is simpler than in the case of the load factor of machinery because the available labor may be applied to different kinds of work. Indeed, no occupation, not even that of the complete housewife, offers greater variety than farming. In addition to the incidental application of varied mechanical aptitude and of competence to care for animals, the nature of the work required of the cultivator changes with the seasons and is somewhat different for each crop, of which there are usually half a dozen. But with all this variety, the ordinary farmer finds only odd jobs and chores to occupy him almost half the year. Even the repairing of his buildings can not well be done in winter. There was a time when threshing was the staple winter occupation, but that is now completed in a day or two by steam-driven machinery. If the farmer

has a wood-lot, he may save a few dollars that would otherwise be spent for coal, though this is but small resource. The problem is worse for the hired laborer than for the farmer himself, for the latter can put at least a part of each day into doing chores. Most hired men can get good paying work for some eight months at best. Additional harvest hands are wanted for perhaps one month in the year. Some of these can follow the harvest northward, but that may mean only another month or so of such employment. Dairying is the only all-the-year-round occupation for the farm laborer. In all respects this seems to offer the best load factor for a farm and is correspondingly attractive.

The same force that gives importance to the use of considerable capital per laborer in relation to the problem of seasonal trades operates generally to strengthen the position of the laborer in the matter of getting regular employment at good wages. An idle plant, especially during good times, means a greater loss to the employer the greater the amount of fixed capital he uses. To hold out against a strike, therefore, costs him more. In this situation the employer may rely upon a long-term contract with the union, the terms being readjusted, if necessary by arbitration, from time to time; or he may try to nip in the bud any incipient tendency towards unionism and keep as large a supply of ignorant laborers at hand as is possible. In America the latter seems too often to have been the policy of large industrial corporations. The evident interest of the public in the continuous operation of the railroads coupled with the necessity of using American labor for positions involving direct contact with the public has compelled a different solution there.

In the course of time, as the extent of capital uses involved with the employment of labor increases, we may expect not only more interest in regularity of employment for the latter throughout the year but also a tendency more frequently to work men in shifts through the 24 hours, though at present any such tendency is explicable rather by operating costs. Operating under an 8-hour day for about 305 work days in the year means only a 28 per cent load factor, figured on "continuous rating," even supposing there is full and even employment of working time. But such a condition is not thought to be uneconomical. The necessity of artificial lighting should no longer be much of an obstacle to a 24-hour day for fixed capital. There is, of course, a variation in the laborers' demand for work through the hours of the day such that

one would expect night shifts to be paid higher, since they subjectively cost more. The fact that such a difference is not generally observable where night work is done is probably indicative of lack of bargaining power on the part of laborers.

The normal tendency of an industry having a large amount of fixed capital per laborer to give its men in general more regular employment may be inferred from what is said above. Generalizing on this basis one may logically infer that increased "capitalism" means a lessening of unemployment in society generally. A comprehensive study of unemployment statistics from a load-factor viewpoint would be of great scientific value. This inference as to the influence of capitalism is true abstractly considered, but there are other factors entering into the problem, among which may be mentioned the lessening of outside opportunities for the wage-worker and a corresponding reduction in his bargaining power, and also the connection between increasing fixed capital and cyclic changes between prosperity and depression in industrial conditions.

Labor, or the service a man disposes of or offers for hire, is the most perishable of commodities—if it may be called a "commodity." If not made use of when available it is to that extent permanently lost. There may be some adjustment to the conditions of demand through extra effort on occasion, which is compensated later by a greater amount of time for relaxation. But in the main, labor power is used to best advantage when regular. It is no accident that we speak of labor as service and of the functions of certain corporations as public services. In both cases there is offered the use of a permanent plant or a durable organism which, if not taken at the time and perhaps on the spot, is lost and therefore fails to make a contribution to the support or carrying charges of the person or plant. Uses that are easily stored in material goods do not require such continuity of exploitation.

The agitation against long hours and overtime during a short period of seasonal exigency has not always taken due notice of economic limitations imposed by load-factor considerations. Canning perishable fruit, the season lasting only a few weeks, would seem to be a case where extra exertion is justifiable, in the form of not only longer hours for those who do work but also the temporary industrial employment of women and children who should usually be otherwise occupied. But there ought to be an external check upon such things, which, however, should be elastic rather

than rigid, operating like the requirement of a higher rate of pay for overtime work. Though there is need of every caution as to the mental and nervous strain imposed, it is too often forgotten that regularity and monotony of work does not conform to the needs of our nervous organization so well as does high stimulation followed by a due amount of relaxation. Man has a good deal of "overload capacity."¹⁰ Making regular use of such capacity, however, is a very different matter from making emergency use of it. The engineer's factor of safety is used in the latter way. And of course the employer can not be trusted to say when and how much of labor's overload capacity shall be exploited. The commerce of unskilled labor tends to be inhumane. But it is probably not much more so where the seasons control demand for labor than elsewhere.

Auxiliary employment is of so comparatively little economic (or rather commercial) importance in this country that we have no familiar term for it, such as the German *Nebenwerk*. A thrifty housewife may sometimes do dressmaking for hire in her spare time, but most employment upon textiles has gone to the factories. Women and children in the poorer quarters of New York often have "home work," but its purpose appears to be not so much to fill in time not taken up with housework as to save factory rentals. Our children are usually considered properly occupied with their education. Many American women of the middle classes are much of the time without occupation, because their work at home is mainly directive and industry can not use such fragments of time and interest as they have to offer. There evidently results great economic waste. The load factor for the urban American woman of the comfortable classes who is not in a gainful occupation and has no children is, economically speaking, very bad. But the utilization of the spare time, which is most of the time, of such persons would cost so much for organization and instruction that, doubtless, it is not now practicable. Much of it is devoted to "social service"; how effectively, there is no occasion in the present connection to offer an opinion.

¹⁰ William James's "Energies of Men" (In *Memories and Studies*, p. 227) impressively develops this idea, though of course he does not make use of the engineering term nor recognize the qualification that the engineering analogy should suggest.

VI. The load factor in consumption.

Despite a possible inconsistency with the title of this paper (if "production" is to be taken in the narrower sense), certain significant applications of the load-factor concept in the field of economic consumption should be mentioned in passing. The most important relates to the cost of existential utility.

Existential utility is, by definition,¹¹ not impaired by the enjoyment of the object affording it, so that, in so far as the effect of activities of consumption is concerned, the thing having existential utility may yield such utility through an indefinite period and in amount limited only by the degree of intensiveness of its utilization. In other words, whether it pays to "invest" much or little in a given object of existential utility depends on the prospective load factor. Aesthetic interests and ambitions often mislead in this respect. But those of us who are not rich do not build elaborate summer homes in the mountains to be used only a month or two. In fact, most of us content ourselves with but one abode to call our own, the reason being the load factor.

It is of interest to note that the load factor of some of our most expensive buildings—theatres and churches, especially—is low, while our residence buildings, with very high load factors, are of comparatively cheap construction. This is very largely due to the economy of multiple utility, but it is also partly the effect of unduly concentrated wealth. It is to be noted, also, that the development of the institutional church means a considerable bettering of the load factor on both the buildings and the staff of religious organizations.

One of the most interesting of recent developments in social amelioration is the argument for a "broader use of the school plant." This is an economic rather than a commercial matter, and as such it rests solidly and soundly on load-factor principles. Similar reasoning is largely accountable for the development of university summer schools. Student rooms in a university town, we are reminded, are much reduced in price in the summer. There is also some seasonal variation in the rent paid for rooms in large cities.

The prompt removal of snow from the streets of New York City—this does not refer to what is done in weather favorable to the street-cleaning department—is a desideratum important to

¹¹ See the writer's *Welfare as an Economic Quantity*, chapter V.

the consumer. It is doubtless worth all it costs. For example, not far short of \$2,000,000 was paid for the Borough of Manhattan alone in a period of a month and a half in 1914¹² for what could not have been called a good job from the point of view of the consumer. But how much could the city afford to invest in efficient equipment when it would be used perhaps only half a dozen days in the year? Such a peak demand can be taken care of only by miscellaneous equipment, adapted to some other kind of work, perhaps, but presumably ill adapted to removing snow. The special labor force is also bound to be of decidedly casual quality, unless the work is organized as emergency work temporarily claiming the services of men regularly occupied otherwise.

The adjustment between supply and demand for meats and fruits by cold storage is an instance of an important contribution to the solution of a load-factor problem. Whether it has been employed merely in this way to perform a legitimate economic function, however, has been questioned. If any considerable amount of food has thus been carried over from one seasonal supply peak not merely up to but through another supply peak, the presumption is that the device has been used to withhold supplies from the market and as an instrument of commercial exploitation of the public rather than as a means to true economy. Moreover, when supply and demand peaks coincide, as, for example, in the case of turkeys, there is ground for increased suspicion of exploitation.

The agitation of the appeal to "do your Christmas shopping early" affords an interesting illustration of the possibility of reducing a peak demand by educating the consuming public. It lies within the power of consumers greatly to reduce the unevenness of demand and the burden of bad load factors and thus to promote more economical production. However, they can not be expected to do this without inducement. In fact, prices are to a considerable extent adjusted in such a way as to provide the inducement.

The question of price differentiation is one with which the load factor has much to do. It calls for mention here, however, only because of the reluctance of consumers to admit the justification for differentiation, due largely to their failure to appreciate the

¹² Extraordinary liabilities incurred by the street-cleaning department for the removal of snow and ice from Feb. 14 to Mar. 31 amounted to \$1,726,000 for Manhattan Borough, as appears in the *Minutes of the Board of Estimate and Apportionment of the City of New York for 1914*, pp. 1942 and 2691.

load factor as an element in unit cost. This situation will tend to improve in proportion as the significance of load-factor considerations in matters of consumption comes to be more generally recognized.

VII. The three coördinate variation factors are conjointly applicable to any kind of productive enterprise.

The later writers of the English classical school went about as far towards a systematic and, by intention, comprehensive analysis of the variation of returns as could be expected before the development of a situation such as to call attention to the load factor. John Stuart Mill in a frequently quoted statement¹³ refers to "That fundamental law of production from the soil . . . that increased labor, in any given state of agricultural skill, is attended with a less than proportional increase of product." And he further says, "No tendency of a like kind exists with respect to manufactured articles. . . . The larger the scale on which manufacturing operations are carried on, the more cheaply they can be performed. Mr. Senior has gone the length of enumerating as an inherent law of manufacturing industry, that in it increased production takes place at a smaller cost, while in agricultural industry increased production takes place at a greater cost."

Senior's discussion¹⁴ is best summed up in these words: "Additional labor when employed in manufactures is *more*, when employed in agriculture is *less*, efficient in proportion."

These are fairly definite statements of the facts of both diminishing and increasing returns and they barely fall short of expressing these principles in terms of the variation of unit cost. However, they unfortunately associate each principle with a distinct branch of production and further suggest opposition between the proportionality factor and the density factor of a sort that will not bear examination. But even if the conception of diminishing returns is not adequate and that of increasing returns not correct, these are but the limitations of the viewpoint of the time and, in fact, of a much later period as well.¹⁵ The principle of diminish-

¹³ Bk. IV, ch. 2, par. 2, of the *Principles*.

¹⁴ Pp. 81-86 of his *Political Economy*.

¹⁵ Cf. Marshall, *Principles* (5th ed., p. 150): "An increase in the capital and labor applied in the cultivation of land causes *in general* a less than proportionate increase in the amount of produce raised, unless it happens to coincide with an improvement in the arts of agriculture." The "*in general*" is cautionary and refers to the situation before the point of diminishing returns has been

ing returns should be generalized and broadened until it relates to the proportions in which labor and instruments may be used in connection with land, not with land in general, but with a specific area or piece of land. It is perhaps necessary to add that the specified area may possibly be the entire surface of the earth. When attention shifts from land, as the productive agent of which the supply is least flexible, and therefore the one of which the amount available in general for a particular enterprise is most likely to be predetermined, to some other relatively invariable agent, it would seem better to call the principle in question by the more abstract name "proportionality factor." The principle of increasing returns made specific is that unit costs—fundamentally this should be cost measured in units that do not themselves vary like commercial or pecuniary expenses—decrease as the commercially practicable scale and density of productive operations increase.

Once the economic significance of the load factor is understood, it will be seen that this explanatory principle also is of general applicability. What the theory of rates for electrical supply thus offers to pure science is doubtless of less scope than the principle suggested to the minds of economists by agricultural conditions in England at the beginning of the nineteenth century. But, as explanatory principles, the proportionality factor, the density factor, and the load factor are of coördinate importance. Historical changes in comparative prices and modern differential price making can not be explained without making use of all three principles of the variation of productivity. These economico-technical principles are, by comparison with ordinary commercial factors in price determination, like the gravitational forces that control the level of the waters in comparison with the winds that make the waves.

The relations between the three principles may best be shown in their connection with each other by an illustration of their mode of operation in a single enterprise, for example, a street railway.

reached. The principle is made applicable to land only, and even there the essential idea of the limitation of area is either lacking or merely implied. On the other hand, Carver (*Distribution of Wealth*, 1904, p. 65) is clear and explicit in the sense of the writer. Bullock, in the article already cited, is also clear on this point. Commons, likewise (*Distribution of Wealth*, 1893, ch. 3, par. 1) attaches most importance to the limited-area conception of diminishing returns.

Such a corporation will usually own land for car houses, power stations, and substations, and an office building. If its car houses are in the suburbs, the cars will probably all be stored on the street level. On Manhattan Island this would be poor economy. Several floors will be used for cars, at the cost of elevating them and of more expensive building construction. Where and how the power station and office building will be constructed will be decided on the same principle. Of course, the degree of use of a site and its costliness react upon and condition each other, so that the point of equilibrium with regard to the proportion of capital invested on a given area depends upon density as well as proportionality.¹⁶ Similarly, the intensity of the use made of the street may compel, and also make economically possible through density of traffic, a more expensive type of construction. Underground conduit construction, costing perhaps twice as much, is a substitute for the trolley electric line with its overhead obstructions. The roadway itself may be put above the street or below. Each step increasing the use of the public way is made at greater cost. But the economic demand is frequently great enough to pay for such intensive "cultivation," despite diminishing returns, that is, the obtaining of fewer feet of floor space for a given outlay in constructing and operating the building, or fewer miles of track per unit of investment.

Unless a railroad or street railway can obtain a certain amount of traffic—freight or passengers or both—per mile of road, it will not pay at all. As the density of traffic becomes greater the road becomes more and more profitable. Increasing traffic may compel the construction of an additional track and thus the increasing profitableness of the road will be irregular. But a double track road will efficiently transport more than twice as much traffic as a single-track road and it does not cost twice as much. Similarly, betterments of roadway yield more than they cost, provided, of course, traffic conditions warrant the outlay. An underground four-track road, the New York subway, accommodated 12,800 passenger car miles per day per mile of road between 42d Street and Brooklyn Bridge in 1912.¹⁷ The

¹⁶ Cost and value, it should be noted, here as always in discussing economico-technical principles, are to be conceived as physical or psychical rather than commercial quantities, though of course the commercial unit may be used as a makeshift unit and will ordinarily serve well enough.

¹⁷ This is the number of car trips (round) over the track in question (that

average passenger car miles per mile of road for the surface railways, practically all double track, on Manhattan during the same period was about 1100 per day. On the elevated tracks of Brooklyn Bridge 7400 car miles per mile were operated on a typical day in 1910—doubtless somewhat above the average per year including Sundays. Passenger traffic corresponds to car mileage sufficiently for the purposes of this comparison, though differences in the size of cars and the length of the passenger trip are qualifications that require mention. Figures of freight ton-miles per mile of steam railroad would illustrate the same point. In New York City, and, indeed, generally for cities, it appears that street railway traffic increases at a rate proportioned to something like the square of population, or at least according to some exponent not much less than 2. Track mileage, on the other hand, appears to bear a constant ratio to population. The proportion is no mere hypothesis, though it would be pretentious to call it a law unless one blunts the word by qualifying it as an "empirical law" and also avoids any suggestion of mathematical exactness. Equipment doubtless increases somewhat faster than track mileage, but not as fast as traffic, because of the tendency to use larger cars, if for no other reason. On the whole, there is evidently for street railways a marked tendency to "increasing returns."

The load factor of a street railway tends to improve somewhat with increasing density of traffic. But the problem of rush hours by no means disposes of itself. For example, on a certain typical day in November, 1910, according to counts made by the Public Service Commission, out of 174,924 passengers crossing Brooklyn Bridge to Manhattan Borough in a 24-hour period, 80,618 passed during the 2-hour period from 7 to 9 a.m. Nearly one half the passengers crossed in one twelfth of the time. In the remaining 10 hours to 7 p. m. 65,432 persons crossed. For passengers from Manhattan to Brooklyn, corresponding figures were 81,275 for the 2-hour peak from 5 to 7 p.m., out of a 24-hour total of 168,685 and as compared with 54,389 in the preceding 10 hours. As indicative of the one-way character of the traffic at the peak time, the eastbound passengers from 7 to 9 a.m. numbered 6,281 and the westbound from 5 to 7 p.m., 10,250. The back-haul traffic against the rush was only 10 per

is, all the car trips of the subway) multiplied by 2. Cf. p. 261 of vol. II of the *Annual Report of the N. Y. Public Service Commission for the First District for 1912.*

cent of the traffic in the other direction. Figures of a somewhat different nature are shown by the ticket sales of the New York subway as distributed by hours. They do not take account of the direction of traffic and are for an extensive line instead of for a particular point which the traffic passes. To whatever extent heavy traffic in one direction is accompanied by scant traffic in the other direction the reflected variation is reduced. That the figures are for ticket sales instead of for rides taken is unessential. The total ticket sales for a day¹⁸ were 1,060,202. The average per hour was thus 44,175. The hour of greatest density of traffic, from 8 to 9 a.m., shows 115,870, or 262 per cent of the average. On this basis one might figure a diurnal load factor of 38 per cent, provided one cared to assume that the northbound passengers' demand for accommodations is appeased by the knowledge that there are plenty of seats going south at some part of the line. The situation of the New York subway is probably more favorable than that of most street railways, both in the degree to which the traffic in one direction tends to balance that going in the opposite direction, and also in the comparative evenness in distribution of traffic through the day. The diurnal load factor for Brooklyn Bridge, according to the figures above referred to is:

$$\text{Eastbound } \frac{168685}{24 \times 49766} = 14.1 \text{ per cent}$$

$$\text{Westbound } \frac{174224}{24 \times 43628} = 16.6 \text{ per cent}$$

This sort of situation is the foundation of the problem of the strap-hanger. It should be recognized that it would be a very difficult operating and financial problem for a street railway to provide seats for all comers at rush hours. There is not only the regular daily variation and its irregular fluctuations to provide for, but the annual or seasonal variation is conspicuously great in the case of the New York subway and also for all surface lines serving amusement parks and summer resorts. It is evident that street railways generally fall far short of being able fully and continuously to utilize their plants.

All these principles of the variation of productivity are phases of the economic influence of the supply of complementary agents

¹⁸January 22, 1914. See p. 96 of vol. II of the *Annual Report of the New York Public Service Commission for the First District for 1913*.

where the respective supply (at a given price) of each, or its cost, can not be turned on and off at will, or is not adjustable by decrease or increase at will and without disturbing the balance of the factors of production, according to need or demand. To fail to see the way in which they interact with and supplement each other may involve misapprehending the significance of any one of them.

From this point of view, as completing the circle of the general factors entering into the variation of productivity and unit cost, the load-factor principle has theoretical and practical importance greater than its apparently restricted scope may suggest. But it is evident that, even on the basis of its place only in industries where its practical importance has been recognized in one way or another, it has a necessary place in any tolerably comprehensive view of the variation of productivity. The concept is applicable to every industry characterized by a heavy investment of fixed capital and by a product that has in some degree the nature of a service, that is, where circumstances restrict the time and place of consumption or enjoyment in a way to require contiguity to the producing agent. The concept is important also, though not dominant, in all branches of production affected by seasonal variation of demand. Even if we disregard all other applications of the principle and consider only the annual load factor, it is difficult to find any branch of production or service where the load factor has not some importance.

While a comprehensive statistical study of the three principles of variation of productivity could not fail to clear up much that is perplexing, it would probably also present to us another problem like the astronomer's "problem of three bodies." Where we can not control the interrelations of several complex variables nor postulate their independence of each other, our deciphering of their effects must be practical rather than scientific in the sense of "exact science." Economic society is a loose-jointed machine, or rather organism, the interrelations between the parts and appliances of which do not lend themselves to thoroughly mathematical treatment. Yet it is common in cost accounting not merely to assume that two of the variation factors can be treated as constant, while attention is directed to a third, but even to assume that there is no variation in productivity. For this reason it is wise to take a good many cost-accounting results

um grano salis. The idea that a determinate unit cost can be fixed for any product or service is certainly subject to considerable qualification with reference to the fact that the result is itself a function of the variable degree of use made of appliances. Extent of use is not an unimpeachable basis of cost-apportionment, though it may be a practically useful makeshift. Neglect of this point may impair the soundness of railroad rate theory, which needs to take account of the density factor, and of electrical rate theory, which similarly needs to regard the load factor. The useful application of both these principles involves price differentiation. There is a causal connection between the variation of rates or prices per unit and the variation of costs, but the two are not necessarily parallel.

Whether or not the term "load factor" comes into general use in economics, the idea and the general principle are needed. Economists can learn much from engineers, especially since the engineers have taken to studying economics. The writer will be gratified if this paper contributes toward a greater interest in economic technology, as contrasted with the commercial and financial aspects of the science.

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SOME OF THE ECONOMIC ASPECTS OF JAPANESE IMMIGRATION¹

The President of the Association has asked me to discuss the economic aspects of Japanese immigration. Happily the subject can be discussed frankly between friends for there is no pressing issue between Japan and the United States. I see no reason why such an issue should arise. True, there are minor problems relating to the regulation of immigration and others more important relating to the treatment of Japanese immigrants in this country. In another place it has fallen to my lot to discuss these at some length.² It is not my purpose to discuss them here. My intention is to deal chiefly with facts in an earlier situation, with the thought that by so doing some light may be shed on a struggle which has issued in a manner fairly satisfactory to both parties except for the adjustments needed at certain points.

The earlier struggle over Chinese immigration and the relatively recent one over the incoming of Japanese laborers developed chiefly out of the conflicts of standards involved. Most important of all was the conflict of economic standards. Time limitations preclude proof of this, but the details show that the plane of competition has been the most important factor in the very general opposition eastern Asiatics have met with in the United States, as well as in other parts of the world. Active opposition has appeared in one division of society after another, as competition, and especially unequal competition, has extended to its field of economic activity. It is chiefly the difference in standards and the conflicts connected therewith that I wish to present for your consideration.

The immigration of Japanese, like that of the Chinese before them, was almost entirely for pecuniary gain. The so-called student element was large among those who immigrated, but comparatively few came to be schooled except possibly by practice in occidental industrial methods. Wages several times higher and comparatively abundant land in the United States furnished the motive for the immigration; the expense of the voyage was not great as compared with the gain in prospect; and the movement was made easy and the risks reduced to the minimum by an almost

¹This paper was presented at the meeting of the American Economic Association held in Berkeley, Cal., August 12, 1915.

²In *The Japanese Problem in the United States*, Macmillan, 1915.

perfect organization. Nothing approaching this perfection of organization has been witnessed in connection with the immigration from any European country. As parts of this organization there were, on the one side, the emigration companies, with their origin in the desire for profit, and the solicitude of the Japanese government for the welfare of its subjects; and, on the other, the boarding-houses and the contractors caring for and securing employment for the immigrants who came. Whether or not close business relations obtained between the emigration companies in Japan and the boarding-house keepers and contractors in the United States may be passed over as unimportant for our purposes. In any event, the immigrant was in a sense induced and his way was effectively smoothed.

With the gain to be realized by migrating from high-pressure Japan, with its dense population and limited natural resources, to low-pressure United States, with its sparse population, relatively cheap land, and extensive foundational industries, a problem of large numbers might easily have been developed. The largest number residing here at any time, however, has perhaps not exceeded 100,000. The small volume of immigration is explained partly by the fact that, in the absence of an emergency, it takes time for a migratory movement to gain headway. But more important, the Japanese government exercised a restraining influence when a problem was being developed. Prohibition of emigration from the native land was removed only in 1868, and emigration was not definitely legalized until 1885. The census of 1890 recorded only 2039 Japanese as residing here, and not as many as 2000 came in any one year until 1898. In 1900, however, the number suddenly increased to more than 12,000, and the direct immigration to the Pacific states then averaged between 6000 and 7000 per year until the emigration of laborers from Japan was more effectively restricted in 1907. These numbers were smaller than they would have been except for the fact that the Japanese government, because of restiveness growing into open opposition and resulting in an investigation on this side and because of territory it wished to develop at home, brought an effective influence to bear upon the outward movement. For some years, however, the number immigrating directly was about equalled by a remigration from the Hawaiian Islands, Canada, and Mexico. But both the direct and the indirect immigration of laborers were effectively restricted in 1907 by the agreement relating to the issuance of passports, and

the President's order denying admission to Asiatics who migrated to Hawaii, Canada, or Mexico, and then sought admission to continental United States. Since the adoption of these restrictive measures, the outward movement has almost offset the inward movement of the classes permitted to enter the country.

Thus, instead of the several hundred thousand who might have gained a residence in this country, not more than a hundred thousand have entered. Indeed, according to the census, the Japanese population of continental United States on April 15, 1910, was only 72,157. There is good reason to believe, however, that the enumeration was incomplete and that the true number was perhaps 20,000 larger than that recorded. But, making the most liberal estimates, only in California did they ever constitute as much as two per cent, and in only two other states—Washington and Wyoming—did they constitute as much as one per cent of the population. In the other western states their numbers have been only a fraction of one per cent of the total.

The total number of Japanese residing at any time in the United States was less than the number of people for some time arriving in a single year from each of three south and east European countries. Yet the comparatively small immigration of Japanese was not without its economic problems, for most of those admitted came to California or Washington; most sought gainful occupation; most of those gainfully occupied found place in a narrow range of occupations and in restricted areas; and as a race they displayed the best competitive ability thus far witnessed in the West. With strong preferences for the kind of work they sought, seeking it through organization, and limited in the opportunities offered to them because of their own limitations in language and industrial experience and because of the opposition of others, the effects on certain occupations and in certain industries were not unimportant nor difficult to trace. If one believes that the greatest gain is secured by improving the condition of those who are in the lower economic ranks, rather than in the most rapid exploitation of resources, one is led by investigation to conclude that more loss than gain resulted from even the small numbers admitted. In my opinion it is fortunate that their numbers were not large and that effective restrictions have been placed upon the further immigration of Japanese laborers.

Most of the Japanese who immigrated directly or indirectly to the Pacific coast previous to 1908 brought only their hands and

began as wage-earners on the lowest rung of the ladder. These men came to the boarding house (for nearly all until within the last six years were single men or married men unaccompanied by their families); and from there most of them secured their first employment as section hands on the railway, as seasonal agricultural laborers in field or orchard, or as domestic servants and house cleaners in the cities. As time passed their occupations became more varied, for the Japanese are within limits versatile. By 1909 some 2200 had employment in lumber mills and logging camps in the Northwest, 3600 in the salmon canneries of Oregon, Washington, and Alaska, and 2000 in coal and iron mines of the Rocky Mountain states, while several thousand had become tenant or land-owning farmers, and an equally large number had engaged in business in the towns and cities, thus giving to their fellows larger opportunity for employment. But at all times the range of employments remained limited. The Japanese gained admission to few trades in which labor was strongly organized. Nor did they secure much work in factories in urban communities as the Chinese had done, for as a result of the long struggle in the manufacture of cigars, shoes, and woolen goods, it was generally decided that this was white man's work. Thus in 1909 I estimated that of some 75,000 gainfully occupied, 10,000 to 12,000 were engaged in domestic service; 12,000 to 14,000 in business as shopkeepers or as their employees; some 38,000 to 40,000 in agriculture as laborers or farmers when the numbers were largest; some 10,000 in maintenance of way or in the shops of railway companies; some 2000 in mines; some 2200 in lumber mills; and approximately 3600 in the salmon canneries. The number gainfully occupied in other ways was and still is insignificant. Hence, a consideration of the economic effects of immigration directs our attention especially to a few occupations. Let us, then, consider the terms on which the Japanese competed in a few of these, note the effects on wages, employment, profits, rents, and land values, and on the industrial development of the West.

Stating general conclusions first, the more important are these:

1. The discharge of others to give employment to Japanese was exceptional; for the greater part they were employed to fill vacancies and to supply the deficiency of laborers—a deficiency on the terms obtaining. There was, nevertheless, considerable displacement incidental to the absorption of Japanese laborers.

2. The general effect of their employment was to retard the

increase in wages because of their numbers and the lower scale accepted by them and because their availability through bosses made their competition most effective.

3. The augmentation of the labor supply, the lower wages required, the convenience of the organization maintained for securing employment, and the efficiency of the Japanese, especially as migratory laborers in agriculture, aided in the development of Western industries.

4. By stimulating industry and by causing the labor cost to be lower than it would otherwise have been, the effect was to increase the profits of employers.

5. The Japanese have made good progress as farmers and as shopkeepers and in some instances their competition has tended to reduce profits.

6. Though there are exceptions, the general effect of the employment of Japanese as agricultural laborers and of Japanese farming was to increase land values, to retard the subdivision of large tracts, and to deflect to other localities the tide of immigration to the West.

These conclusions are supported by details which may be presented in summary form with reference to the employment of Japanese as railroad and farm laborers, and their progress as farmers and shopkeepers.

The first Japanese employed as section hands were sent out from Portland about twenty-five years ago. With this as a beginning when the immigration had only begun, their numbers increased until in 1906 they constituted one fourth or more of those so employed in the Western division of the country. They found preferment by the railroad companies except in the Southwest where the cheaper Mexicans displaced them after a short trial. The demand for them was particularly strong after 1898, when enlarging opportunity for employment in cities, in mills, in mines and smelters, and on general construction work, caused the laborers who had been employed to drift away from their section work with its relatively low wages, isolation, and hard living conditions. The Japanese were extensively substituted, especially in the mountain country, for other men who disappeared because of their unwillingness to remain at the stationary or slowly increasing wages.

The instances of displacement to introduce Japanese gangs were few. Yet it is true that in almost all cases the Japanese

were paid lower wages than were currently paid to other section hands except the few remaining Chinese and the Mexicans. And, in spite of the bargaining power possessed by the contractor, their wages generally remained about 20 or 25 cents a day below those paid others, including immigrant Italians, Greeks, and Slavs, until after the restriction upon further immigration began to effect a decrease in their numbers. The Mexicans and Chinese excepted, the Japanese were the cheapest railroad laborers. That they accepted relatively low wages was one reason for their preferment, for the selection of certain races as section hands has turned more upon the rate of wages than upon efficiency. It is likely to be so with large corporations generally when selecting unskilled laborers for employment in large numbers.

A factor of greater importance than the wages paid is found, however, in the convenience with which the Japanese were secured through "contractors" of their own race. Except for the Greeks in some instances and the Mexicans in the Southwest, most of the laborers in unskilled work had to be secured through ordinary employment agencies, which involved much uncertainty because of competition elsewhere and at times some expense on the part of the railway company. Not so the Japanese. The railroad company engaged a contractor to furnish it with laborers in return for the privilege of selling supplies and transporting them without charge to its men. In some cases the contractor was paid in a lump sum for the work done, and the wages were then paid to the laborers after bills incurred had been deducted. The contractor provided the necessary interpreters to supervise the carrying out of the contract and to conciliate where friction occurred. His profit came from supplies sold, the interpreter's fee \$1 per month, and a commission, usually 5 cents per day for each man, the fees being deducted from the earnings of the men employed. This organization was not, of course, unique in handling immigrant labor. As long as immigration continued, however, it was more effective among the Japanese than among any other race known to the writer in the East or West.

Thorough organization as well as relatively low rates of wages caused the Japanese to be the most effective competitors for employment to fill vacancies. But once employed, another factor entered into the situation. They found favor with the road-masters and foremen because of their efficiency and their good behavior in camp. On the whole, they proved to be better work-

men than any of the other immigrant races, the Mexicans in the Southwest excepted; and the absence of brawls in camp set them in strong contrast to certain other competing races. Except in the Southwest, a large majority of the road-masters and section bosses, after a few years' experience, preferred them to any other race, unless the Chinese, no longer available for recruiting.

That the Japanese proved to be efficient is shown by the facts that in recent years, with decreasing numbers, their wages have advanced to the general level, and that a considerable number have been promoted to the rank of section boss. The Union Pacific, for example, now has about one hundred Japanese section foremen, most of them supervising the work of Greeks, Italians, Slavs, and Mexicans. Many are employed in the same capacity by the other railroads of the West.

Some of the effects of the employment of Japanese in maintenance of way are evident. When their numbers were increasing, one effect was to retard the increase in wages and to increase the profits of their employers. They filled the places of men displaced by unsatisfactory conditions maintained to save money. Or, looking at the matter from a different point of view, they were added to an inadequate labor supply—under the conditions obtaining.

That the increase in wages was retarded is indicated by the statistics published by the Interstate Commerce Commission as well as by what has already been said. The statistics show that the wages of trackmen other than section foremen increased, between 1898 and 1908, 30 per cent in District II (New York and Pennsylvania) and 28 per cent in District VI (Illinois, Wisconsin, Minnesota, etc.), both districts depending largely on recent European immigrants, as against 18 per cent and 12 per cent in Districts VII and X, respectively, where most of the Japanese were employed. It should be noted, however, that in 1906, when the Japanese were being employed in largest numbers, their wages were about the same as those paid Italians and other recent immigrants in the East and Middle West. In some instances, in fact, their wages were appreciably higher.

Under the same circumstances and with substantially the same results, Japanese were set at work as laborers and helpers in most of the railroad shops and in a comparatively few of the lumber mills and logging camps in Oregon and Washington. Time prevents the presentation of detail.

Much more interest attaches to the immigrant Japanese in

agricultural pursuits. Previous to 1908, when the volume of immigration was largest, two fifths or more of the Japanese laborers, it would appear, went from boarding-house to field, garden, or orchard, and among those who became railroad laborers and miners there has always been a strong "back flow" into agricultural pursuits in Colorado, Idaho, Utah, Oregon, Washington, and especially in California. In spite of the greater number of occupations in which they have been employed, an increasing percentage of the total number have been gainfully occupied as agricultural laborers, gardeners, or farmers.

The problem involved in securing a sufficient number of suitable farm laborers has been greater in the West than elsewhere because of the greater specialization by localities in agriculture and the relatively sparse population. Moreover, because of favorable climate and soil, many localities, especially in California, have found greatest profit in specializing in those intensive forms of agriculture for which the Asiatics are well fitted, and much of which has not been attractive to the older elements in the population. The beet-sugar industry, stimulated by the tariff, has grown apace and become prominent in California, Colorado, Idaho, and Utah. The growing of grapes, fruit, berries, and many kinds of vegetables, has received more and more emphasis. Taking California as an example, such crops as have been mentioned accounted for almost one half of the agricultural values in 1909. According to the census, during the ten-year period then closing, they had increased more than eighty-seven per cent, while the value of other crops had increased less than forty-three per cent. Beets, vegetables, fruit, berries, and grapes require a great deal of hand labor in their production and marketing, and much of it is of the "stoop-over" or "squat" variety.

It has been chiefly in agricultural operations of this kind that the Japanese, like the Chinese before them, have engaged, and chiefly as migratory, seasonal hand laborers. In Idaho imported Japanese have done the greater part of the hand work in the beet fields from the inception of the sugar industry. The same is true of some of the sugar-producing communities of Utah, while in Colorado a few years ago the Japanese were doing more than one sixth of the hand work, thinning, hoeing, weeding, and harvesting, in the beet fields. In California in 1909, the percentage of labor furnished by the Japanese in the production of beets was 66.3; berries, 87.2; nursery products, 57.3; grapes, 51.7; vegetables,

45.7; citrus fruits, 38.1; deciduous fruits, 36.5. In the production of grain and hay, the more customary American crops, on the other hand, they furnished only 6.6 per cent of the labor.

Agricultural work is always more or less seasonal in character. That of the sugar-beet industry and much of that in harvesting, if not in cultivating, other crops of importance in California, are peculiarly so. With extreme specialization and development in advance of a resident population at all commensurate with the need for labor, many communities have had need for a short time for laborers severalfold in excess of the number employed as regular hands. This has brought with it an extreme need for an organized migratory labor force so that there would be an assurance of the supply required at certain times. Moreover, it has given rise to a problem in caring for laborers employed temporarily in large numbers. It was chiefly because the Chinese were accustomed to hand labor, were organized under a boss who would undertake to supply laborers as needed, were readily shifted from place to place, and easily provided with shelter in the familiar bunkhouse, and provided their own subsistence, that they gained a firm foothold in the agriculture of California. Of course they were also the cheapest laborers, whether paid by the day or according to contract for the work in hand. As a result of their employment, a Chinese labor economy developed in California, and industries were brought into existence which were dependent upon an organized, self-subsisting, migratory labor supply.

This situation and the inclination on the part of white men to avoid work "tainted" by the employment of Asiatics, made the entry of the Japanese into agriculture of a certain kind easy—the kind to which their agricultural arts in Japan had accustomed them. Following the disappearing Chinese, they fell heir to their places, maintained the old order, and made it possible to extend it in the sugar-beet and other industries as they developed.

To a very considerable extent the Japanese were employed to fill the vacancies left by the Chinese and to provide the additional labor required in new industries and in newly developed territory. To a considerable extent their labor was supplementary to that of others. Yet there was a great deal of displacement. In numerous instances the disappearance of the Chinese who were growing old was hastened by their rivals, for they fitted into the situation and frequently worked for lower wages and accomplished more work. In other cases they displaced white laborers because they were

organized and more easily secured, were more easily provided for, and because they worked for lower wages whether by the day, piece, or contract. In not a few instances their employment involved the displacement of white men and women in the orchards and packing houses. The citrus industry in some of the southern parts of this state (California) is a good case in point. Thus, the conspicuous place occupied by the Japanese as agricultural laborers was gained as a result of the decreasing number of Chinese, and because they were conveniently secured, easily provided with shelter, and self-subsisting, and because they worked for low wages and engaged in occupations many of which were unattractive to white men. Among these factors that of organization is to be greatly emphasized. It has been a great convenience for farmers to engage men from a boss by telephone to pick citrus fruit, or to enter into a contract to have the hand work done in the beet fields at so much per acre and in the vineyards at so much per ton or tray, and to throw upon the boss the trouble of securing men, keeping the necessary books, and making the necessary payments to the several laborers employed as the work progressed.

At the present time there is little difference in the wages paid to the different races employed as agricultural laborers, if comparisons are made between those engaged in the same occupations and not provided with board in addition to wages. In 1909, however, there was usually a difference of about 25 cents per day between day wages paid to white men and Japanese engaged in the same occupations and there were still some instances where a difference in piece rates obtained. Italians, employed by farmers of their own race, were, however, an exception. At an earlier time, and especially when the Japanese were seeking employment in new localities, the disparity in wages was well nigh universal and considerably greater than in 1909.

Thus, investigation leaves no doubt as to certain points. The organized competition of the Japanese retarded the rise in wages which normally would have accompanied the prosperous and expanding industries and the fuller exploitation of natural resources—in those occupations in which they found employment in any considerable number. It is probable, however, that the wages of others in related occupations—as fruit-packers, teamsters, and shipping clerks—were in some cases favorably affected because there was no increase of competition and the expansion of the industries was greater than would otherwise have taken place.

Again, there can be no doubt that the convenience with which they were secured and provided for and the lower wage accepted by them stimulated the beet-sugar, raisin, and other types of intensive farming. This stimulation was accompanied, of course, by higher land values and larger profits. It was effective, also, in some places, in placing a premium upon large land holdings which could not have been farmed as easily nor as profitably in the absence of a cheap and well-organized supply of laborers to be had when needed. The biggest problem in the West is found in an extensive capitalistic agriculture and high land values, retarding the natural subdivision of the land and its settlement by families producing a number of crops and doing most of their own work. To a certain extent this has been connected with Asiatic labor. The Mexicans are now serving in the same way in the southern part of California. But in connection with this last consideration it should be pointed out that it has been chiefly the Japanese, and before them the Chinese, who have been employed in out-of-the-way places, under trying conditions, as along the Lower Sacramento River, and it has been largely their labor which has developed the country, so as to make it habitable for a settled population. A certain amount of work is involved in developing much of the land before it can be regularly settled upon.

In view of what has been said it is evident that a readjustment involving the substitution of something else for the Asiatic labor economy will involve considerable difficulty in California. Yet the substitution can be made. There is little if any of the work required that is not done by white men to some extent elsewhere, and even in California, under climatic conditions as trying as those where Asiatics have been employed. Surplus labor in non-agricultural communities will have to be organized and distributed through a system of labor exchanges, as suggested by the California Commission of Immigration and Housing, and the provision made for the shelter and subsistence of laborers will have to be revolutionized in many places. A civilization of the kind desired requires no less and the burden incidental to it must be assumed. Something can be done to regularize agricultural work and reduce the demand for migratory laborers. Even more must be done. The final solution must involve small farming by a land-owning population doing most of its own work. Anything else should be made too expensive to continue in existence indefinitely. Steps must be taken to hasten such a final result by regulating the sale of land and using publicity to effect more reasonable prices.

For some time attention has been fixed upon the progress made by the Japanese as farmers. Indeed, much more weight has been given it in practical politics than it merits, for, according to the census of 1910, they held in continental United States, as owners or tenants, only 2502 farms, embracing 157,259 acres. Of the holdings, 1816, embracing 98,254 acres, were in California. It is difficult for statisticians to decide just what is a farm and just who is a farmer. It is probable that it is largely because of difference in definition that the figures found in Japanese sources have been much larger than those recorded by the census. According to one of these, in 1909 the acreage held by Japanese in California alone was 153,683, while from another source it is reputed to have been approximately 200,000 in the Western States as a group. But whatever the acreage, it was an insignificant part of the whole and has never become important in more than a comparatively few localities.

Nevertheless, the progress of the Japanese in acquiring farms has been rapid and the accompanying circumstances have been significant of what would happen in the event of a large immigration. With a large influx of immigrants of the type we have had, there can be no doubt much of the land would come into their possession and important changes in the composition and life of agricultural communities settled in would occur. Without a problem of numbers there can be no important problem connected with Japanese tenure. With an immigration problem, an important land problem would develop.

Every race shows a tendency sooner or later to rise in the adopted country to the position occupied at home, and the more ambitious and capable the race, the stronger is this tendency. It has been very strong among the Japanese. Most of them have come from the farms of Japan where great respect attaches to agriculture. Moreover, because of the meagerness of natural resources and the necessity for the most careful husbandry, the agricultural arts, in so far as labor and scientific application are concerned, have been highly developed in Japan.

So here, in the adopted country, agriculture has carried with it station in life and has given opportunity for the application of the best developed arts possessed by the race. Again, the average Japanese can more easily establish his independence of the wage relation by becoming a farmer than in any other way; and that the members of this race place more emphasis upon such independence

than any other race is distinctly true. With them, to be a farmer is to have station in life; to be a wage-earner is to display a badge of inferiority. Moreover, the Japanese wish to have their families with them when once they decide to remain in a country for some years; and many of them have so decided after coming here as laborers with the intention soon to return to their native land. To have a home, however, is usually out of the question unless they become shopkeepers or farmers. By becoming one or the other they can establish homes and at the same time secure an opportunity for the wife to be gainfully occupied—as most of them are.

These things must be emphasized in explaining the progress made by Japanese as farmers. But other factors have coöperated. One of these is the pivotal place they have occupied as farm laborers. It is a general fact that the land tends to fall into the possession of the race occupying such a position, if the race is a capable one. It has been only a slight change from the employment of Japanese laborers under a "boss" to share tenancy where the landowner provided most of the equipment, did the work with teams, advanced the wages of the employees, managed the business in all of its detail, sold the produce and collected the selling price, and then shared this with the tenant after all bills were paid. Cash tenancy, with liberal advances and the rent collected out of the receipts from crops sold, differs little except that more of the risk is taken by the tenant. To the landowner, however, either arrangement has had the distinct advantage of interesting the "boss" and obtaining with a greater degree of certainty his coöperation in securing laborers as needed and in supervising them at work. Most of the tenant farming by Japanese in the growing of grapes and deciduous fruit in California and in growing sugar-beets everywhere is due to the fact that the Japanese worked under a "boss" and occupied a dominant place in the labor supply required for taking care of the crop. As some landowners leased their holdings and secured an advantage in the labor market, there was the more reason for others to do so.

Again, the Japanese, like the Chinese before them, have had an advantage over other races as competitors for land, in California especially, because they could be easily and cheaply provided with shelter. If not the bunkhouse, then a corresponding shelter would suffice, and if a new structure was required, it was frequently built by the tenant with the privilege of removing it upon the expiration of the lease. The landowner and his family, if they wished, as in

most cases they have, could occupy the farm residence and reserve such part of the farm as was desired. The members of no white race could be had as tenants unless the family residence was let with the land, or unless cottages, superior to those which have generally been provided, were erected at the landowner's expense for their use. With respect to the kind of housing required, the Asiatics have competed with others for the possession of land on the basis of a lower standard. It has been an important factor in explaining the advance of the Japanese as tenant farmers.

The Japanese, like the Chinese earlier and now, have been willing to pay higher rents than others for land—such high rents in fact that the owner has frequently found it more profitable to lease his land than to farm it on his own account. That the Japanese and Chinese can afford to pay a relatively high rent is explained in part by the fact that their efficiency and the kinds of crops grown by them will bear it, in part by the fact that they have a different standard of application, and in part by the fact that the income in prospect from farming need not be so large as that expected by most other farmers. The Asiatic farmer expects to work hard and for long hours, the Japanese is usually assisted in garden or field by his wife if he has one, the opportunities for employment other than as an unskilled laborer have been limited, and as a result of careful and efficient growing of intensive crops his return per acre is ordinarily a large one. But whatever the reason or reasons, the most nearly universal fact in the West has been that the Asiatics, with the possible exception of German Russians in Colorado, have been the highest bidders for land. This fact is undisputed. In some localities the sums paid have been ruinously large so that an organized effort has now and then been made by the Japanese to limit the amount paid. It is equally true that they have paid correspondingly high prices for the comparatively small amount of farm land purchased.

Another factor of some importance in explaining the progress of Japanese as farmers is the ease with which they, like the Chinese and the Italians, form partnerships to carry on their enterprises. Of still more importance has been the aid extended by commission men and others interested in the marketing of the crops. Liberal advances have been made on crops in order to control the marketing of them. Fruit shippers have frequently served as middlemen in the leasing of land, and here and there have leased land themselves and then sublet it to Asiatics in order to control the marketing of the crops.

And, finally, one not unimportant fact entering into the situation has been the reclamation and reduction of raw land by the Japanese tenants. Numerous instances are found in Washington, Oregon, and along the Sacramento River in California. For the most part, however, the lands acquired by the tenants have been those improved by others, though when acquired they were perhaps devoted to a more intensive purpose.

Turning to the effects of Japanese farming, there are at least six to be noted. The first has been the contribution to the resources of the country in the form just mentioned. Another has been the premium placed upon large holdings because of the profitableness of the tenant system. Instances are known to the writer where large tracts have not been marketed because of the large profit realized from leasing them to camps of men. Yet it is not to be inferred that the breaking up of large tracts into small holdings for the purpose of sale has not taken place. It has, in fact, proceeded rather rapidly in most parts of the West. Nor is it to be inferred as a result of the tenant farming by Japanese that the system has grown rapidly as compared to the growth recorded elsewhere. In fact, the census of 1910 shows that in California the percentage of farms operated by tenants decreased from 23.0 to 22.2, and in the three Pacific Coast states from 19.7 to 17.2, while in the United States as a whole it increased from 35.3 to 36.8, during the ten years then ending. The point is that leasing by Japanese has combined with the labor situation to place a premium upon capitalistic agriculture and to retard the settlement of lands by small farmers.

The general effect of the Asiatic competition for land has been to increase its value. There are concrete cases where the contrary is true, instances where farms have less value for others because of foreign settlements in the neighborhood, but these are the exceptions to the general rule. These exceptional instances, however, suggest another consideration, *viz.*, the effect upon the settlement of other races in localities in which the Asiatics reside. Numerous localities might be cited in which American families have settled while the influx of Asiatics was taking place and while farming by them was being extended most rapidly. There is no place known to the writer where any considerable number of white families have been caused to leave the community as is so frequently alleged. Yet it is my opinion that the general effect has been to place a slight premium on absentee landlordism and to deflect the tide of settlers somewhat to other places.

A fifth effect to be noted is contained in the statement that "the Japanese have ruined the market." They have certainly shown themselves prone to engage in the production of one or a few of the crops which have first brought them to the community as laborers—strawberries, asparagus, or melons it may be. In some instances the enlarged acreage has caused prices realized to be injuriously affected and other growers have been inclined to withdraw from the production of the unprofitable crops.

The most pronounced effect of Japanese farming until the number of laborers of that race began to decrease, was, however, to displace others by hands selected from among their own countrymen. The California Labor Commissioner, as a result of his investigation in 1909, found that 96 per cent of those employed by the Japanese farmers were of their own race. This resulted in part from the favor in which they held such laborers, in part from the disinclination of white laborers to take employment with them. With the scarcity of Asiatic laborers, of course, the situation has more recently changed very considerably.

These details relative to Japanese farming, presented in very summary form, are those of most importance in leading one to the conclusion that with a large immigration a serious problem would develop in connection with the control of the land. The Japanese have shown themselves to be more able competitors for it than the natives or the European immigrants settling in the West, with the possible exception of the land-hungry German-Russians.

While the majority of the incoming Japanese sought employment in railway maintenance of way, in the fields and orchards, or in other rural occupations, a large percentage of the student class and of the business men remained in the cities, where opportunities for social life and employment, and, perhaps, for study and observation appealed more strongly to them. To these, others have been added as a result of the "back flow" from non-urban employments which have not given opportunity for those reared in cities to follow their crafts or business; have usually been accompanied by hard and unsatisfactory living conditions; and in which, except by becoming independent farmers, they have generally found occupational advance difficult. The census of 1910 showed that 48.8 per cent of the Japanese were in urban communities.

Of the Japanese settled in urban communities and gainfully occupied, about one half have come to be engaged by white employers in domestic service, in restaurants, stores, and miscellan-

cous occupations, the other half in shopkeeping or as employees of their countrymen who are so engaged. Passing over the first group, some things connected with Japanese shopkeeping are significant.

Beginning practically with a well-defined stream of immigration, the number of Japanese places of business increased rapidly, especially during the years subsequent to 1904. By 1910 the number of Japanese establishments in the West was possibly not far from 4000, three fifths of the total number being in California. More recently the number has increased somewhat. At present perhaps more than one fifth of the Japanese gainfully occupied are connected as principals or employees with such establishments.

Most of the Japanese places of business grew out of the necessity of providing for the needs of the members of that race. Discrimination against them in boarding-houses, restaurants, barber shops, and places of amusement was almost universal. The contractor and employment agent and the supply house appeared as a matter of course, while the demand for native foods and wares gave opportunity for importers and grocers. Printing establishments using the Japanese characters were necessary. Most of the Japanese business is to be accounted for in this way; but as time passed the opportunity to enter the general competitive field was embraced, and grocery stores, laundries, restaurants, shoe repair shops, and the like, for white patrons were started. Not only have many of the Japanese business establishments been primarily to meet the need of their countrymen, but most of the others have been small and few compared with those conducted by non-Asiatic races. Yet in a few cases, as in the laundry trade, the grocery trade in Sacramento and Seattle, the barber trade and clothes cleaning and dyeing in Seattle, and the low-priced restaurant trade in a number of places, the effects of their competition were felt and opposition developed because of that fact. A certain amount of underbidding endangered the usual standards. Some of this underbidding still obtains. Investigation shows that at least until the effects of restriction upon immigration were distinctly felt, the wages paid Japanese employees were lower and the hours of labor usually longer than the standards observed by competitors. It shows also that with limited opportunity to make occupational advance and to establish independence of the wage-earning relation, and with lower standards at home, the standard of necessary profit was generally lower than that required by others, in-

cluding Greeks and Italians. Thus, in spite of high rents paid, it has been possible to make necessary profits while underselling others to an appreciable extent.

Underbidding has, of course, been sorely complained of, in San Francisco and Seattle especially, in certain trades, and boycotts have been employed in defense. But frequently of more importance than the underbidding has been the shifting of population incidental to the formation of Japanese colonies. This has been accompanied by the withdrawal of a large percentage of the earlier residents, partly because of the tendency of rents to increase with the demand made by the newcomers, partly because of their presence, and partly because, with the population changes, much of the local patronage has shifted from the old establishments to those opened by the Japanese.

These, briefly presented, are the more important facts which go to establish the conclusions set forth in the beginning of this paper. But the question arises, Wherein have the Japanese in all of these matters differed from the races constituting the main flow of immigration from Europe and western Asia? The question can be answered only in view of the different levels to be bridged and of the facts existing when the several races have come in contact on the same soil. It has generally been true that the Japanese have been the cheaper and better organized laborers in seeking employment, that they have been the higher bidders for land, and that they have had smaller expenses and a lower standard of profit in business. The difference is, of course, merely one of degree. The degree of difference has been such, however, that when coupled with admirable ambition and good efficiency in many undertakings, the immigration of Japanese in appreciable numbers to settle chiefly on the Pacific coast, would inevitably affect established economic standards more than the incoming of the Europeans.

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AGRICULTURAL CREDIT LEGISLATION AND THE TENANCY PROBLEM

That the American states are vigorously attacking the agricultural credit problem is evidenced by the number of rural credit measures which have been enacted into law within the last two years.¹ No less than seven states now have comprehensive laws

¹The history of state rural credit measures may be sketched briefly as follows:

Massachusetts passed a law on credit unions in 1909; Texas on rural credit unions in 1913; Wisconsin on coöperative credit associations in 1913; and New York on credit unions in 1914. In 1913 a law was passed in Wisconsin providing for the incorporation and regulation of land-mortgage associations. The associations were authorized to make long-term loans to farmers on first mortgage security and to issue and sell mortgage bonds. In the following year the New York legislature provided for the organization of the land bank, a central institution, with the power to issue bonds on the security of farm mortgages turned over to it by local savings and loan associations.

During the current legislative year laws providing for the organization of credit unions or coöperative banks have been passed in Massachusetts, North Carolina, Oregon, and Utah. Massachusetts and Utah, following the example set by Wisconsin, enacted special laws for the organization of farm land banks. Similar measures were defeated in California, Indiana, Iowa, Michigan, and Nebraska. In Kansas and North Carolina the laws on building and loan associations were amended to enable those institutions to make long-term loans on agricultural lands. The California legislature authorized the governor to appoint a commission to investigate rural credit schemes at home and abroad.

In some states there has been a disposition to regard the land credit problem of such serious nature as to warrant the adoption of a policy of state aid. For a number of years Idaho, Indiana, Iowa, North Dakota, Oklahoma, Oregon, South Dakota, and Utah have been investing certain permanent school funds in farm mortgages. In 1913 Wisconsin adopted a similar policy, authorizing that the state's school fund be loaned to farmers for the purpose of making permanent farm improvements. Another law of the same year provided for the issuance of bonds by counties to enable farmers to clear their lands for agricultural purposes. So far, nothing has been accomplished by either law (Wisconsin Bulletin 247, Jan., 1915, p. 31). In the early part of the present year (1915) the legislature of Wyoming authorized the state treasurer to invest, subject to certain conditions, the funds arising from the sale of state lands in irrigation bonds. A bill providing for the investment of the state's permanent funds in farm mortgages at not less than 6 nor more than 7 per cent failed to pass. The North Dakota legislature proposed an amendment to the state constitution which, if adopted, will enable the state to establish a loan fund and pledge its credit either to individual farmers or to rural credit associations. In Montana, authority has been given to the state treasurer to issue bonds and make long-term loans to farmers on the security of first mortgages whenever the demand

designed to bring about desirable reforms in the land credit system. In seven states there have been enacted laws governing the formation and management of credit unions or coöperative credit associations. The most important legislative measures, however, have been concerned with the problem of land credit reform. Massachusetts, Utah, and Wisconsin have made special provision for the establishment of competitive farm land banks under state supervision; the New York legislature has provided for the organization of the Land Bank of the State of New York, a central institution, to be owned and controlled by local savings and loan associations; while Missouri, Montana, and Oklahoma have abandoned all hope of solving the rural credit problem through private initiative and have adopted modified programs of state loans.

These measures are not altogether dissimilar. Although there is considerable difference in the proposed machinery for administration and supervision, all contain plans looking toward a longer term of loans, repayable by amortization, and the issuance of bonds on the collective security of farm mortgages. The chief differences are to be found in the effect which these measures are expected to have upon the farmer's rate of interest. From this point of view the laws are of two fairly distinct types. One type seeks merely to reduce a portion of the waste in the present land credit system by improving the method of making loans and by giving greater mobility to funds seeking safe investment. The other contemplates, in addition, a material reduction in the farmer's rate of interest either through the organization of a strong central bank or through a program of minimum state aid.

The laws of Missouri, Montana, New York, and Oklahoma are examples of the latter type of legislation. If they succeed in accomplishing the definite purpose for which they were enacted, the farmer's rate of interest on long-term loans will be about 6 per cent² in Montana and Oklahoma, and 5 per cent or less in Mis-

for bonds is equal to the demand for farm loans. Applications and subscriptions are to be received by the county treasurers. To insure prompt payment of interest on the bonds a guarantee fund has been provided by the state. Finally, Missouri and Oklahoma have provided for the appropriation of certain state funds to be used as initial working capital for a system of long-term loans. Additional funds will be obtained through the sale of bonds secured by first mortgages or deeds of trust.

²The Montana law (Laws of Montana, 1915, ch. 28) provides that the state treasurer may issue 5 per cent bonds, secured by farm mortgages, whenever applications for loans and subscriptions to bonds are sufficient to warrant a series of \$100,000. Smaller bond issues may be made from time

souri and New York. These rates are well below the rate that is current in the respective states.

The Missouri law³ is the most drastic of these measures. Briefly, it provides for the establishment of a Missouri land bank, annexed to the office of the state bank commissioner, under the direction and supervision of a board of governors composed of the governor of the state, the attorney general, the secretary of state, the state treasurer and the state auditor. Loans varying from \$250 to \$10,000 are to be made to farmers up to 50 per cent of the value of their lands for terms of not less than five nor more than twenty-five years. An amortization scheme, borrowed with some inaccuracies from the Crédit Foncier, provides for the repay-

to time at a rate of interest agreed upon by all the applicants for loans. Loans will be amortized by semi-annual payments equal to 4 per cent of the face value of the mortgages. One eighth of each payment or less, in the discretion of the state treasurer, will be used to pay the expenses of administration. The inference is that the farmer's rate of interest will be 6 per cent or less when bonds are issued in series of \$100,000.

The law authorizes the appropriation of \$20,000 from the state treasury to be used as a guarantee fund. In the event of default by a mortgagor, the state treasurer will draw upon this fund to satisfy the holders of bonds, but the amount thus drawn must be restored to the fund either from the proceeds of foreclosure sale or by a direct levy on all mortgagors benefiting under the same bond issue. The effect of this guarantee on the investment character of the bonds seems to be of doubtful value when it is reflected that the mortgages rather than the bonds are to be exempt from taxation.

The Oklahoma law (Laws of Oklahoma, 1915, chs. 34, 284) provides that the commissioners of the land office may make loans to farmers at 6 per cent, for terms of 2½ years. In order to provide sufficient funds for this purpose, the commissioners are authorized to issue 5 per cent bonds on the security of certain state educational lands. Further issues, bearing the same rate of interest, may be made on the security of the mortgages held by the commissioners. This would seem to create an almost inexhaustible fund provided no difficulty is experienced in floating the bonds. Although not guaranteed by the state, the bonds will bear the signatures of the governor, the president of the state board of agriculture, and the state auditor, and will be approved security for the deposit of public funds and legal investments for trust funds. The income from the bonds will be subject to the income tax.

³Laws of Missouri, 1915, H. B. 877, p. 196. The law will not become operative until December 1, 1916. There was some doubt at the time the measure was proposed as to whether it would be constitutional for the legislature to appropriate \$1,000,000 from the state treasury for the purpose of organizing the bank. To avoid all possible constitutional difficulties it was deemed best to postpone the organization of the bank until the law could be submitted to the voters of the state under the "initiative."

ment of the principal within the term of the loan in fixed annual payments consisting of interest, one half per cent on account of the reserve, and the remainder on account of principal. The law expressly stipulates that loans are to be made only for the ordinary productive purposes, *i.e.*, to complete the purchase price of land, to pay off existing encumbrances, and to make permanent improvements. Of the total amount loaned, 25 per cent may be used for the purchase of stock and machinery.

The initial working capital of the bank, \$1,000,000, is to be appropriated by the legislature from the funds in the state treasury. One half of this amount will be loaned to applicants at a net interest rate of 4.3 per cent. Thereafter, capital will be provided through the sale of debenture bonds, issued in series of \$500,000, and loaned to farmers at the rate which the bank must pay on the bonds. Whenever there are deeds of trust on hand aggregating \$500,000, a new series of bonds will be issued until the total issue has reached \$40,000,000. Further issues may be made indefinitely at a ratio of \$30 of bonds to \$1 of the reserve.

An effort is made to give the bonds a high standing as investment securities. Every series of bonds will be secured by a like amount of deeds of trust on farm lands within the state appraised at double the face value of the bonds. For the purpose of insuring careful appraisement, the state is to be divided into districts and an expert appraiser appointed for each district at a salary of \$2000. The appraiser is to have the coöperation of local banks in securing information relative to the applicant for a loan, and the services of state and county officials in passing upon title abstracts. These services are to be rendered without fee. Furthermore, the bonds will have as security the bank's reserve fund. The board, however, has the discretionary power to refund to each borrower, who has made regular payments for at least ten years, the reserve of one half per cent collected on his payments or that portion of it which remains after charging it with its share of expenses and loss. When the reserve fund has accumulated to an amount sufficiently large that it will no longer be needed to insure the solvency of the bank, the legislature is to provide for its repayment to the state. Finally, the bonds are exempt from taxation; and in all cases where the law requires a deposit of securities to be made with the superintendent of insurance or the state treasurer, the bonds are to be available for that purpose "as if they were the bonds of the state of Missouri."

Under the New York law⁴ of 1914 some noteworthy results have already been accomplished.⁵ The Land Bank of the State of New York—an adaptation of the Central Landschaft of Prussia—is now fully organized. Over forty savings and loan associations with total assets of approximately \$20,000,000 have met the organization requirements. The first bond issue of \$250,000, maturing in ten years and bearing an interest rate of 4½ per cent, has also been authorized. A successful effort is being made to sell the first issue of bonds to the large financial institutions. The funds thus derived from the sale of the bonds will be loaned by the land bank to member associations at 5 per cent. Owing to the coöperative structure of these associations the cost of placing the loans will be comparatively small and the farmer's rate of interest is expected to be well below 5 per cent once the system has become firmly established. At present, the one concern of the organizers is to arouse the interest of farmers in the new system so that they will be induced to become members of the local associations.⁶

The reasons for the general activity of the state legislatures in the field of rural credit legislation are not far to seek. With the practical exhaustion of the supply of free land, the farmer who aspires to land ownership is now obliged to depend upon his borrowing power with the various financial institutions rather than upon the generosity of the federal government. And it is generally admitted that our state and national bank systems are prejudicial to his needs. These institutions, developed for the most part to meet the needs of the commercial and industrial classes, are unable as commercial banks to extend to the farmer on the most advantageous terms the kind of credit he requires. At present, about the longest term of loan allowed by commercial banks on farm mortgage security is five years, which is far too short a period for the repayment of a loan out of the product of land. Moreover, the method of repayment is haphazard, the possibility and conditions of renewal uncertain, and the expenses in the way of interest charges, commissions, etc. are much higher than farm

* Laws of New York, ch. 369, art. X.

* For a critical analysis of the provisions of the law see Herrick and Ingalls, *Rural Credits*, pp. 235-239.

* The writer is indebted to Edwin F. Howell, managing director of the land bank, for the facts in regard to the bank's organization as it existed on August 19, 1915.

mortgage security under a specialized and mobile system of land credit would warrant.

Similar objections could be urged against the present method of granting short-term loans to farmers, but current proposals for rural credit reform are concerned primarily with an improvement of the facilities for land-mortgage rather than personal credit. There are several reasons for the concern. In the first place, it is claimed that a reform in the land credit system which reduced the rate of interest on long-term loans would effectively curtail the growth of farm tenancy in this country by making it possible for a young man of small means eventually to become a landowner. In the second place, it is generally agreed that the same institution can not properly deal in both kinds of credit and that therefore the problem of land credit should be dealt with separately. Finally, it is suggested that with lower interest rates on long-term loans the problem of short-term credit would become of less serious consequence because farmers would be able annually to use a larger proportion of their earnings in financing temporary claims.

The conclusion seems to be well established that the defects in the land credit system have contributed materially to the growth of farm tenancy in the United States, especially in the Southern and Middle Western states. From decade to decade the increase in the percentage of tenancy continues, assuming in some sections significant proportions. In many of the agricultural counties in Iowa and Illinois a majority of the farms are already operated by tenants; and in at least eight of the agricultural states⁷ in the South less than one half of the total number of farms under cultivation are operated by their owners. In time, the tenancy problem may be expected to become even more general. This situation is not to be viewed with complacency. While it is true that farm tenancy is, in many cases, the natural and necessary status preliminary to land ownership, the fact remains that the possibility of acquiring land from its earnings in the course of a natural lifetime is gradually becoming more remote. And when the stage has been reached where the younger generation of farmers is unable to look forward to the ownership of land, there will be a division of society into classes and an inequality in oppor-

⁷ Alabama, Arkansas, Georgia, Louisiana, Mississippi, Oklahoma, South Carolina, and Texas. *Thirteenth Census of the United States*, vol. V, pp. 125-126.

tunity entirely opposed to the spirit of American institutions. Moreover, a system of tenant farming is not, from the point of view of agricultural progress, an ideal one. The tenant, unbound by property ties, takes little interest in the development of a wholesome community life. His methods of tillage are wasteful and soil-depleting. The general movement for the betterment of rural credit conditions is, in the last analysis, a direct outgrowth of the conservation movement, to which farm tenancy is stubbornly opposed. Since the federal government has failed to take the initiative in establishing an adequate credit system for the farm tenant, it is only natural that the states should undertake to solve the problem independently.

But the general increase in farm tenancy in the last twenty-five years is not to be attributed so much to the defects in the land credit system as to the fact of rising land values—a problem which current reform measures have failed to consider. Throughout the Middle West, if not the whole country, land is held for speculative purposes. Owing to the rapid rise in the prices of farm products since 1900, there has been a phenomenal increase in the value of land and a growing confidence in the minds of farmers that the ownership of land is equivalent to the certainty of an unearned increment. And this confidence has been shared by other classes. Even merchants, bankers, and private investors have contributed to the speculative spirit—purchasing land with idle funds, deriving whatever income it yielded in the hands of incompetent tenants, and awaiting the natural increase in value. The immediate effect of this speculative activity has been to raise the value of land far above the capitalization of its rent at the current rate of interest. It has placed a premium on tenancy and wasteful farming. Investigations of the Department of Agriculture covering three representative areas in three essentially agricultural states have shown conclusively that the present ratio of farm earnings to expenses is extremely unfavorable to land ownership.⁸

If, then, state activity in the field of rural credit legislation is to become the prevailing fashion, the question arises, What will be the effect of such legislation on the tenancy problem? If any reform measure succeeds in strengthening the borrowing power of all farmers, will it necessarily improve the prospect of a farm tenant?

It is undoubtedly true that the adoption of a land credit system

* Bulletin No. 41, United States Department of Agriculture, p. 24, table XVII.

providing for a low rate of interest and a longer term of loans, repayable by amortization, would enable a man of small means eventually to become a landowner. True amortization as a method of repaying the principal literally compels the borrower to save. But it does not follow that farms thus acquired would be farms of profitable size or that the percentage of farm tenancy would decline. After all, there is an intimate relation between the value of land and the current rate of interest. However strained that relation may become, the value of land is certain to rise in response to a reduction in the farmer's rate of interest. Indeed, there is abundant evidence that a lower rate would only add to the present speculative element in farm land investments. Recently, there have come to the attention of the writer a great many cases where prosperous farmers are incurring heavy mortgage indebtedness at fairly high interest rates and acquiring new land, in the belief that direct governmental aid will enable them ultimately to convert their interest charges to lower rates and to realize a speculative profit on the land thus acquired in advance. Manifestly, legislation which *promotes* the spirit of land speculation by promising higher land values tends not only to make it more difficult for a tenant to acquire in the course of his productive years a farm of the most profitable size, but also to encourage concentration in ownership, absentee landlordism, and its concomitant, farm tenancy. In short, the effect of legislation which seeks to improve the prospects of tenants by reducing the rate of interest to all farmers may be to accentuate rather than to mitigate the problem.

There are various ways of attacking the tenancy problem. If, however, a reform in the land credit system is to be the initial step in reducing the percentage of farm tenancy, some measures should be taken to prevent the general rise in land values that would normally result. One of the simplest devices for this purpose is the tax weapon. Either a special tax imposed on land not cultivated by the owner, or a progressive tax on all holdings above a certain minimum value would, if properly administered, have a remedial effect on land speculation and concentration. In New Zealand, where the state makes advances to settlers at a low rate of interest, a graduated tax on land has been employed for a number of years. Although imposed originally with the object of breaking up the large estates,⁹ it has, at the same time, been responsible in

⁹ Le Rossignol and Stewart, *State Socialism in New Zealand*, p. 128.

no small measure for the success of the Liberal government's policy of direct aid to farmers. The ability to borrow from the state at a low rate of interest has been a powerful incentive to the New Zealand farmer to become a landowner; and the imposition of progressive land taxes has prevented a corresponding increase in land values. It is true that speculative tendencies have not been entirely eradicated,¹⁰ but the fact that the small farmer has prospered is significant. On the whole, the plan is suggestive. It is quite improbable, however, that any such measure would be feasible in the United States. So long as the administrative machinery of the several state governments is weak and ineffective in carrying out the ordinary property tax legislation, the administrative difficulties involved in the more complicated program of progressive land taxes would seem to be of such a serious nature as to condemn their use altogether in connection with rural credit measures. Moreover, there is a decided inclination on the part of the American states to abolish the general property tax as a source of state revenue, and for that reason alone the progressive tax plan may be dismissed as impractical and inexpedient.

If any reform measure is to succeed in reducing the percentage of farm tenancy in the United States by reducing the borrower's rate of interest, the lower rate must be accompanied by specific limitations on the borrowing power of present landowners. About the only way in which this can be accomplished without resorting to "class legislation" is by the adoption of a program following out the fundamental principles embodied in the liberal land policy of the federal government. First of all, there should be, in any rational scheme of rural credit reform designed to aid the farm tenant, a careful limitation on the amount of long-term credit that can be extended to any one individual. Some attempts of this kind have already been made in current legislative measures. The Missouri law provides that individual loans shall not be in excess of \$10,000, and that applications for loans under \$5000 shall be given administrative preference. The new Oklahoma law fixes the maximum loan at \$2000. But even this restriction seems liberal. Certainly, any larger grant would only encourage land purchasers to indulge in the same kind of speculative ventures that have characterized farm land investments for a number of years. Furthermore, an effective policy would provide that loans be made only for the purpose of *acquiring* land and on condition

¹⁰ *Ibid.*, 131.

that the land acquired be cultivated by the owner for a definite period of years or until the loan is repaid. These restrictions would virtually, but not technically, prohibit a utilization of the scheme by present landowners and private speculators. A reasonable relation would be maintained between the value of land and its productive capacity. And, with a lower rate of interest, the farm tenant of worthiness and ambition would have better prospects of becoming a landowner.

The establishment of a land credit system suitable to the needs of farm tenants is clearly beyond the province of private initiative. The problem can be dealt with only by direct governmental aid. There is, however, a well-defined field for private enterprise in rural credit reform. When the states have provided for the incorporation and regulation of land credit banks, authorized to make long-term loans on the security of farm lands and to provide capital through the sale of land-mortgage bonds, the long-term credit requirements of landowners can be readily supplied by institutions conducted for profit. It is not to be expected that these institutions will greatly reduce the farmer's rate of interest. An improvement in the method of making loans is, under existing conditions, much more to be desired. But, by giving greater mobility to private capital and eliminating some of the waste in the present land credit system, they can at least give the farmer a rate of interest commensurate with the security he has to offer.

Two such companies have been formed in Wisconsin under the 1913 law. Their bonds have sold at 5 per cent.¹¹ Likewise, the land-mortgage bonds of the Woodruff Trust Company of Joliet, Illinois, organized under the general trust company laws of that state, bear an interest rate of 5 per cent. This company has been in actual operation for the past three years and has achieved no small degree of success. Loans are made to farmers for terms of twenty years, repayable by amortization, at an interest rate of 6 per cent and the expense growing out of renewal commissions is entirely eliminated.¹² In Kansas there is being organized the Kansas Land Credit Trust Company with a capital stock of

¹¹ Hibbard and Robotka, "Farm Credit in Wisconsin," *Wisconsin Bulletin* 247, p. 30.

¹² George Woodruff, "Rural Credits in Operation," an address delivered before the convention of the Southern Commercial Congress at Muskogee, Oklahoma, April 27, 1915.

\$500,000. It is planned to have the stock widely scattered over the state, to be owned, in fact, by the stockholders in land credit banks. One of these institutions will be established in each county. The local institution will make long-term loans at 6 per cent, turn over the mortgages to the central trust company, and debenture bonds will then be issued against them. Once this system is fully organized it ought to be successful. With a widely scattered body of stockholders, the difficulties heretofore encountered by land-mortgage companies in educating the farmer to a proper understanding of long-term loans and amortization will have been largely overcome. Besides, in providing for an organization extending into every agricultural section of the state, the business of making farm loans can be carried on with a comparatively small margin of expense and the volume of transactions ought to be sufficiently large to assure liberal dividends on the initial capital.

The enactment of laws governing the formation of these companies, so supervised and regulated as to afford a reasonable degree of security to the holders of land-mortgage bonds, would solve the problem of long-term credit for landowners. This seems to be the logical field for state activity. In addition, it would be well to exempt the bonds from taxation, proscribe some of the objectionable features in the foreclosure and exemption laws, and improve the system of land-title registration. This is about all that state legislation should attempt to accomplish. While it is indeed certain that a state could establish a strong centralized bank or adopt a program of state loans that would reduce the farmer's rate of interest below the rate that can be profitably offered by competitive land credit companies, such a course of action is without justification. Not only would it add to the embarrassing problems for which the irregularity in state legislation has been responsible, but also, as has been indicated, it might serve merely to aggravate the tenancy problem. In so far as the reason for rural credit reform is to be found in the increasing percentage of farm tenancy, the larger program of direct aid is one to be instituted by the federal government. And, in the opinion of the writer, it would be as logical for the federal government to grant special aid to the young man desiring to own a farm as it was to adopt the free land policy which made ownership rather than tenancy the characteristic form of land tenure in this country.

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ECONOMIC ASPECTS OF THE PANAMA CANAL¹

It has long been realized that the value of the Panama Canal is twofold. First, it is a valuable naval asset in that it enables the United States and foreign countries, not at war with the United States, to transfer naval vessels between the Atlantic and Pacific oceans in the shortest possible period of time. Second, the canal has an unquestioned economic value, although there has been much difference of opinion as to the extent of this value and as to the policy best suited to enhance the canal's economic efficiency. It is the purpose of this paper, so far as time will permit, to emphasize some of the economic aspects of the Panama Canal.

It is now possible to speak with somewhat greater assurance than before the canal was opened to commerce, for since it was navigated by the first merchant vessel on August 15, 1914, nearly a year has passed and traffic statistics for the first 10½ months of operation have been compiled. Unfortunately, however, the element of conjecture has not been entirely removed, because the first months of operation would, even in times of peace, be abnormal until shipping customs and ocean routes have undergone the changes which the opening of a new interoceanic waterway makes necessary, because vessel movements have been restricted by slides, and especially because the international trade between the countries of the Atlantic and Pacific oceans has been woefully disrupted by the European war. Not until the return of peace, when international trade again becomes normal, can the traffic of the canal be expected to reach its normal volume.

During the first 10½ months of operation, in spite of abnormal conditions, 1088 merchant vessels, carrying 4,969,792 tons of freight passed through the canal, and the United States government collected \$4,424,256 in tolls. Of the many items comprising this traffic, but one may be said to be normal, namely, the coastwise traffic between our eastern and western seaboards; and this was heavier than was estimated when the rate of toll was fixed. The coastwise traffic during the first 10½ months amounted to over 40 per cent of the total, although it was estimated that during the first years of operation it would normally comprise but 10 or 11 per cent of the canal's traffic. The international traffic of the

¹This paper was presented at the meeting of the American Economic Association held in Berkeley, Cal., August 12, 1915.

canal, on the contrary, comprised nearly 60 per cent of the total. This was less than had been anticipated, for the trade of Germany, one of the three leading countries to use the Panama route in its trade with the markets of the Pacific, has temporarily come to an end and the exports of Great Britain, France, and all the remaining countries of Europe to the west coast of South America, Australasia and the Far East, are far below what they usually are in times of peace; and even the trade between the eastern seaboard of the United States and the western coast of South America, although slowly recovering, has thus far been depressed, because the outbreak of the war caused a severe financial and commercial depression throughout the greater part of the South American continent. It is estimated that when the international trade between the countries of the Atlantic and Pacific recovers its former volume the total net tonnage, foreign and coastwise, using the Panama Canal will be at least 10,500,000 net registered tons. This estimate was made by Professor Emory R. Johnson, the former special commissioner on traffic and tolls, at the time he recommended the rate of tolls which was adopted by the President. The gratifying advance made in the coast-to-coast business indicates that when international trade becomes normal this estimate will prove to be conservative.

From what has been accomplished since the opening of the canal and from the detailed analysis of ocean shipping, transcontinental railroad traffic, steamship operating costs, and length of ocean routes, which was made before the tolls and vessel measurement rules were promulgated (in which work it was my privilege to assist for a period of two years), it is possible to trace at least some of the waterway's economic influences. Its first and most direct *effect is upon ocean steamship routes*. Four of the world's greatest ocean routes are directly affected by the Panama Canal—the Magellan or Cape Horn route, the Panama Railroad and Mexican or Tehuantepec route, the South African or Cape Town route, and the Suez Canal route. The five primary routing factors which operate in favor of the Panama route are: (1) the distance or length of the voyage, (2) the length of time required to reach destinations, (3) fuel costs, (4) the relative ease of obtaining profitable cargoes, and (5) the absence or presence of transshipment costs. In each of these the Panama Canal has an advantage over rival routes affecting a portion of their former traffic. Other considerations may also enter at times, such as port charges and

marine insurance rates, but they are not determining factors as between the Panama route and its competitors. The routing effect of the canal, moreover, applies almost exclusively to steamships, internal combustion oil vessels, or other self propelled or towed vessels. But few sailing vessels have selected the Panama route and few may be expected to do so in the future, for their approach to the Panama, from the Pacific, as also the approach to the Suez Canal through the Red Sea, is seriously retarded by uncertain winds and belts of calms.

The extent to which the Panama Canal effects a saving may be illustrated by a few concrete examples. The distance from New York to San Francisco via the canal is 7873 nautical miles shorter than by way of the old Magellan route; and the corresponding saving in shipments from New York to Valparaiso, Chile, is 3747 miles; to Iquique, the great Chilean nitrate port, 5139 miles; and to Guayaquil, Ecuador, 7405 miles. As compared with the Suez Canal route, a steamer sailing from New York to Yokohama via Panama and San Francisco saves 3768 miles and to Shanghai 1876. The route from San Francisco to Liverpool via Panama is 5666 miles shorter than by way of Magellan. Steamships sailing from New York to Sydney, Australia, save 3932 miles as compared with the South African route; and the Panama route to Wellington, New Zealand, is 2493 miles shorter than the route by way of Magellan. The trade between the eastern seaboard of the United States and western Europe on the one side and all the leading ports of North and South America will take the Panama route because the saving in distance is pronounced. Vessels operating between our eastern seaboard and the Hawaiian Islands, Japan, Australia, New Zealand, and Chinese and other Oriental ports as far west as Manila, also shorten their voyage by using the Panama Canal; and those sailing between Europe and New Zealand find the Panama route to be the shortest but save far less than the vessels which ply to and from the eastern seaboard of the United States.

The savings in distance occasioned by the Panama Canal go hand in hand with the resulting reduction in sailing time. An ordinary 10-knot steamer, when sailing from New York to Wellington via the canal rather than by way of the shortest competitive all-water route, saves 9.9 days, to Sydney 15.8, Yokohama 15.2, Valparaiso 15.1, Honolulu 27, Shanghai 7.3, and San Francisco or other Pacific coast ports, 33.3 days. No routing consideration

is more important than this reduction in time, for from it result a more frequent steamship service, more rapid delivery, and a reduction in operating costs. It varies greatly according to the reduction in distance between different ports and the speed of the vessel. It is less in case of fast passenger ships; but it should be remembered that a large part of the trade between the Atlantic and Pacific moves in ordinary freighters having a speed of from 9 to 12 knots per hour.

Steamship operating costs are reduced not only as a result of a saving in sailing time and length of voyage but also by a reduction in fuel cost as compared with the Suez, Magellan, or South African routes. The Panama route reduces the fuel bills of steamships primarily because less fuel is needed to reach those parts of the world which are tributary to the canal, and as compared with the first two routes also because relatively larger proportions of American and native coals are available, the prices of which are lower than those of the costly Welsh coal which is supplied at many of the fuel stations on the Suez and Magellan routes. The sale of American coal at the canal by the United States government and the increasing quantity being shipped through the canal by Eastern coal exporters is likely to become of the utmost importance as a means of stimulating canal traffic and as a source of commerce.

Traffic considerations occasionally attract vessels through the Panama Canal even though in particular instances other routes are shorter. Thus, the greater ease of obtaining cargoes in particular voyages and the lower coaling costs have caused some vessels plying between Europe and a number of the ports of Australasia and Japan to sail via Panama even though it is not the shortest available route.

Transshipment costs as a cause of diverting traffic to the Panama Canal are especially important in connection with the Tehuantepec and Panama railroad routes. Vessels formerly transshipping from ocean to ocean by rail now pass through the canal, for the transhipment costs paid at Tehuantepec average about \$3.50 and at the Isthmus of Panama about \$3 per ton of cargo. In comparison, a canal toll of \$1.20 per net vessel ton, or an equivalent of from 80 to 90 cents per average cargo ton, denotes a huge saving.

Canal tolls constitute an important routing consideration only at those distant marginal points which are geographically so located as to bring the canal into direct competition with other routes. Much the larger share of its regular traffic is naturally so tribu-

tary to the canal that it would seek the canal route quite regardless of any tolls which might reasonably be charged. In fixing tolls in the future the government will constantly be confronted with the question whether or not it is more desirable to reduce the tolls on all traffic so as to reach out for a somewhat larger share of that small minority of additional vessels which might use the canal if the tolls were lower, than to conserve its revenues by maintaining reasonable tolls and fixing them primarily with reference to that much larger portion of traffic which the canal now benefits in many ways. The rate of toll on merchant vessels is now practically the same at Panama and Suez and the average tolls collected are slightly lower at the former because the measurement rules upon which they are based are somewhat more liberal and, while the Suez Canal Company charges a special toll of 10 francs for each passenger on board a vessel in addition to the main tolls based on its net tonnage, no special passenger tolls are collected at Panama. The two great waterways, however, are competitors for but a small portion of the traffic which they handle.

The second economic effect of the canal is its *influence upon commerce*. It has already begun to stimulate both domestic and foreign commerce, and that it will do so on an even larger scale when the commercial world returns to an even keel is undoubtedly. Its most sweeping effect on commerce will result from the improved ocean services which it incurs by reducing sailing time and time of delivery between many Atlantic and Pacific ports, by increasing the frequency of sailings, and by reducing operating costs. It also affects commerce by reducing ocean freight rates between numerous points. It is a poor time to compare ocean charges when an abrupt shortage of tonnage is occasioned by a war which locks many of the finest deep sea vessels of the world into their harbors and draws others into the traffic in grain, flour, provisions, war munitions, and other freight moving to those belligerent or neutral countries whose trade routes have not been entirely closed; yet it is significant that, while transatlantic rates have increased amazingly, the coast to coast rates on many commodities shipped via the canal are from 5 to 20 per cent lower than they were before the opening of the canal. Others are the same as they were and but few are higher.² Ocean freight rates are based upon what the traffic will bear rather than upon distance or operating costs, but the canal,

² Coast to coast rates by canal were quoted on September 5, 1914, and June 7 and 8, 1915.

by encouraging the entrance of additional coastwise lines, has tended towards lower rates. Instead of the three private lines and one government line which operated before the opening of the canal, five private steamship lines are now engaged in the coast-to-coast business; and, while they will probably coöperate in making their rates after traffic conditions are well adjusted, each endeavors to obtain as much freight as it can accommodate.

The opening of the canal has further benefited commerce by exerting an influence upon transcontinental railroad freight rates. The rail carriers have, since the opening of the canal, reduced their transcontinental rates to the Pacific coast on a great number of commodities, in order to retain as large a share as possible of the freight originating on or near the Atlantic seaboard. Moreover, these reductions have been extended to the same articles when shipped from points in the Central West so as to enable the shippers of this region to compete with those located near the seaboard; and the Interstate Commerce Commission, being convinced of the revenue needs of the railroads and the varying effects of canal competition, has authorized them, subject to certain maximum limits, to charge lower rates to the Pacific coast terminals than to intermediate points not subject to the same degree of water competition.³

The commission has likewise regulated the back-haul rates from Pacific terminals to interior points so as to facilitate the shipment of freight to such points by way of the canal.⁴ Those who expected a wholesale and drastic reduction of transcontinental rates as a result of canal competition will doubtless be disappointed, for it should be remembered that not more than 20 to 22 per cent of the transcontinental railroad freight has in the past originated at, or been destined to, points located on or near the Atlantic seaboard. Should they endeavor to hold their former share of this freight by drastic cuts in their rates, they would be obliged to extend automatically the same reduced rates to the much larger volume of transcontinental freight which moves between the Central West and the Pacific coast. Transcontinental railroads may, therefore, be expected to maintain their rates primarily with reference to the freight which moves to and from the Central West where the influence of canal competition is least felt.

The opening of the canal has also stimulated commerce, both

*32 I. C. C. Reports 611, January 29, 1915.

*34 I. C. C. Reports 13, April 20, 1915.

domestic and foreign, by directing the attention of manufacturers and exporters to markets formerly regarded as unimportant or inaccessible. It is an advertising medium which should prove invaluable to American commerce.

During the first 10½ months of operation the largest item in international traffic of the canal was the trade of the eastern section of the United States and Europe to the west coast of South America; the second largest was the trade between the Pacific coast of the United States and of Europe; and third, that between the Atlantic coast of the United States and the Far East.⁵

These three items constituted over 95 per cent of the total international traffic of the canal, the remainder moving to and from Australia, New Zealand, British Columbia, Western Mexico, Central America, and other miscellaneous points. The part of the United States in this international traffic has been unduly large because the trade of Europe with most regions of the Pacific Ocean is, temporarily, far below normal. More Chilean nitrate, for example, has thus far been shipped to the United States through the canal than to Europe, although in times of peace the nitrate shipments to Europe have usually been four or five times greater.

The international trade of the United States is especially benefited in so far as it depends upon the canal, because the canal reduces the distance between our eastern seaboard and the Pacific

* See the following table:

Traffic of the Panama Canal during the first 10½ months of operation.

Months	Eastbound		Westbound		Total		Vessel tonnage	
	Ves-sels	Cargo	Ves-sels	Cargo	Ves-sels	Cargo	Gross tons	Net tons
1914								
August . . .	11	62,178	13	49,106	24	111,284	120,282	85,978
September . .	30	180,276	27	141,762	57	322,038	303,446	221,059
October . . .	40	263,288	44	168,069	84	421,357	461,104	328,216
November . . .	38	242,291	54	206,510	92	448,801	452,550	322,731
December . . .	57	271,219	43	179,235	100	450,454	485,672	344,294
1915								
January . . .	64	240,925	44	208,082	98	449,007	490,571	347,212
February . . .	53	276,078	39	150,987	92	427,065	455,344	322,862
March . . .	80	417,610	57	217,447	187	635,057	675,281	475,984
April . . .	60	285,457	59	287,384	119	522,841	569,877	404,539
May . . .	75	382,174	67	246,534	142	578,708	703,805	492,350
June . . .	60	282,561	83	320,619	143	603,180	698,855	497,810
Total . .	558	2,844,057	530	2,125,735	1,088	4,969,792	5,416,787	3,843,035

Ocean very much more than the distance between Europe and the Pacific. While it shortens the route from New York to Valparaiso by 3747 miles, the route from Liverpool to Valparaiso is shortened by but 1540 miles. The routes from New York and Liverpool to Wellington, New Zealand, are similarly shortened by 2493 and 1564 miles respectively; and while the canal materially shortens the route from New York to Yokohama, Shanghai, and Sydney, it does not affect the distance between Liverpool and these points, for the route from Europe to Asia and Australasia, with the exception of New Zealand, is longer via Panama than by way of the Suez Canal.

Although an American merchant marine adequate for American commerce has advantages over the continued dependence of the merchants and producers of the United States upon foreign vessels, no sections of the world benefit so greatly from the opening of the Panama Canal as do North and South America. In the foreign trade, the whole of the United States benefits materially. The Pacific coast uses the canal to advantage in its trade with Europe; the Atlantic and Gulf seabards and the Central West use it in their trade with Pacific markets as far west as Hongkong and Manila. The Gulf ports are especially benefited by an unusually large reduction in distance, their geographical location being such that the distance from New Orleans to Manila is reduced by 1978 miles as compared with a reduction of but 41 miles in the distance from New York. A revolutionary shift of foreign trade from the Atlantic to the Gulf ports is not to be expected, for there are other trade considerations besides a reduction in the length of ocean routes, but in so far as the canal influences ocean routes no section east of the Pacific slope is benefited as largely as the ports located on the Gulf of Mexico.

In the domestic transcontinental trade the ports of the Atlantic, Gulf and Pacific seabards obtain the greatest and most direct assistance from the canal, for they can utilize it to full advantage without the payment of railroad and transshipment costs. The regions adjacent to the seabards also benefit greatly in that they are able to ship through the canal at rates lower than the all-rail charges of the transcontinental railways. Much canal traffic is destined to and originates at points as far west as Pittsburgh and the eastern part of Ohio. The domestic commerce of the Central West benefits less; for, although the steamship lines are reaching into this region to a somewhat greater extent than before the canal

was opened, much the largest proportion of the trade between it and the Pacific coast continues to move by rail. The benefit derived from the canal by the Central West has been mainly indirect, coming through the reduction of the railroad rates on a number of westbound commodities. The shippers and manufacturers of the Central Western and Atlantic states are competitors for the Pacific coast trade and it remains to be seen to what extent the former will continue to hold their erstwhile dominant position. The Central West will be assisted by the transcontinental railroads; and the Atlantic States, by the canal lines. The region which has thus far benefited least from the canal is the Rocky Mountain section, for the increased water competition at the Pacific coast terminals has induced the railroads, with the consent of the Interstate Commerce Commission, to widen the difference between their transcontinental and intermountain rates on numerous commodities. Should this policy fail to maintain the revenues of the rail carriers, the alternative policy would be to reduce their intermountain rates so as to deprive the Pacific terminals of a portion of their present jobbing trade and to supply the mountain states more largely with Eastern and Central Western wares directly by rail. The various commercial districts of the country do not have an equal interest in the canal and it is not at present possible to forecast what the relationship between the railroad and steamship rates will ultimately be.

A gradual growth in the commerce of the United States, both foreign and domestic, may be expected, although the sudden commercial revolution which some of the enthusiasts predicted has not occurred. It should not be overlooked that the trade of the United States with many of the most promising of the newer markets of the world is not directly affected by the canal. Large sections of South America, for example, including Argentine, Brazil, Uruguay, and most of the north coast countries, lie east of the canal and their trade with our eastern seaboard does not move via Panama. The shortcomings of most of the markets directly affected by the canal, moreover, are such that, however great the success of the United States may be, no sudden commercial upheaval is probable. In most of the foreign markets of the Pacific the American exporter is confronted by well-established foreign competitors who have thus far controlled much the larger share of their foreign trade. From the year 1900 until the outbreak of the European war, the United States has supplied but $8\frac{1}{2}$ to $12\frac{1}{2}$

per cent of the imports of Chile; and the American proportion in Australia has ranged from 9.7 to 16½ per cent, in New Zealand 7 to 13 per cent, and in China from 5½ to 16 3/10 per cent. Great Britain, Germany, and in China also Russia and Japan, will make every effort to maintain or improve their present commercial positions. In some of these markets, moreover, the population is as yet too small to warrant the purchase of large quantities of outside wares. In others there are wide undeveloped areas, parts of which have glowing future prospects but the development of which requires time and the expenditure of large sums on railroads and other improvements. Others, such as China, have a dense population but one which still has a low purchasing power and the demands of which for Western products grow but gradually. In some instances, as in Australia and New Zealand, there are relatively few commodities which are at present available for return cargoes to the United States, although they have a large surplus of agricultural products which readily find a market in Europe. In China, moreover, it remains to be seen whether in the light of recent happenings the open door policy which the United States has always favored will, in the future, be maintained.

It should also be borne in mind that the Panama Canal influences trade only in so far as it improves transportation conditions, and that transportation is but one element in international trade. Commerce is vitally affected by foreign investments, by banking and credit relations, by the use of effective trade methods, and, in some instances, by the political control of Pacific markets by rival foreign countries. That the canal will encourage American commerce can scarcely be doubted, but it is equally probable that much of its influence will be thwarted unless other trade considerations are also fully recognized.

From the influence of the canal upon ocean routes and commerce results the third economic value, namely, its *effect upon the country's industries*. The opening of outside markets for manufacturers is of the utmost importance to the industries of the Central, Western, and Atlantic Coast states. As the country's surplus of farm products which can readily find markets in Europe has been declining since the close of the nineteenth century, so the surplus of manufactures has been steadily growing. Many of these surplus wares can not find an adequate foreign market in Europe but must seek a market in the newer regions of the world; and large quantities of these commodities are now moving through the canal.

from Eastern factories and mills to the markets of the Pacific coast. The Eastern and Southern states, moreover, are shipping coal and cotton through the Panama Canal to Pacific markets. Similarly, the Pacific coast has lumber, grain, flour, wool, mineral and vegetable oils, salmon, fruits, and other products which are already moving through the canal to the Eastern markets of the United States and especially to Europe in appreciable quantities. Many industries, moreover, are brought nearer to their source of raw materials. Australian wool, for example, is beginning to be shipped directly to the textile mills of the East instead of indirectly by way of Great Britain; various sugar refineries depend upon Hawaiian sugar; Atlantic coast iron and steel mills are beginning to import ore from the west coast of South America; and Southern and Eastern coal is moving through the canal and may assist in solving the fuel problem of the Pacific coast. Numerous industries will be greatly benefited by the canal, but for reasons the same as those which influence commerce no sudden industrial revolution may be expected. Transportation is but one among the many forces which influence the growth of industries.

The United States government has done much at Panama which stands to its credit. It has constructed the canal with a rapidity and efficiency which has brought favorable comment from the entire commercial world. It has fixed the tolls with a view alike to the promotion of commerce and industry and to the conserving of the nation's revenue, and not until after a detailed study of canal traffic and tolls had been made. It has, moreover, wisely decided to collect tolls uniformly from the vessels and citizens of all nations in accordance with the spirit of treaty obligations, and to collect them from coastwise as well as deep sea vessels. None are so well able to pay tolls as the vessels engaged in the coastwise trade, for they are legally protected against foreign competition. The tolls of \$1.20 per net vessel ton, with a reduction of 40 per cent in case of vessels in ballast, are essentially reasonable and are based upon the net tonnage of vessels as ascertained in accordance with a carefully prepared code of measurement rules. These measurement rules were expressly formulated with a view to obtaining for each vessel a net tonnage as equitable and as nearly representative of its real earning capacity as possible.

Detailed canal operating rules have also been adopted and the operating force has been organized. Government coaling stations,

open to merchant vessels, have been established at both canal terminals, and fuel oil may be purchased at the canal either from the government or from private dealers.

The increased activity of the United States Bureau of Foreign and Domestic Commerce in the promotion of the foreign trade by creating a staff of trade experts should be gratifying to all who have the country's export trade at heart. It is to be hoped that what has been done is but a beginning and that our government will do as much for American exporters as is done for some of their foreign competitors.

It would seem, however, that various additional economic steps of great importance to commerce and industry and to the efficient utilization of the canal still need to be taken. One of these has to do with the development of an American deep sea merchant marine. So long as our foreign trade was confined largely to Europe it made little difference to American exporters or importers whether their goods were carried in foreign or American vessels, for in times of peace the steamship services between our eastern seaboard and Europe are excellent. The relative shift from agricultural to non-agricultural exports and from European to non-European markets, however, alters the merchant marine problem completely, for in the trade with South American and Pacific countries foreign exporters have had the advantage of superior steamship services. The Panama Canal act of 1912, as amended in 1914, has removed the disadvantage of higher construction costs by permitting the registry of foreign built vessels, but the American ship operator continues to be burdened by higher operating costs than those paid by foreign navigation companies. These differences in operating costs must be removed or private American steamship companies can not be expected to compete with foreign concerns, much less to provide a service equal to that centering at European ports. Few desire to abandon reasonable safety provisions, but there are many provisions in the navigation laws which needlessly burden vessels of American registry. A careful revision of our hopelessly bulky navigation laws will do much to narrow the difference in operating costs which stand in favor of foreign vessels. The remainder could well be overcome by the payment of specific mail subsidies to a limited number of lines operating under definite contracts which confine them to those countries where markets are most desired and require them to provide a service of agreed frequency and rapidity. The danger

of government ownership and operation of certain steamship lines is that many private steamship companies would be discouraged and that, consequently, little would be permanently accomplished unless the government entered the steamship business on an enormous scale.

The Panama Canal act, moreover, prohibits all railroad-owned steamships from using the canal, although a committee of Congress has learned that 61.9 per cent of the regular line tonnage on the Atlantic and Gulf seaboard and 19.8 per cent of that operating on the Pacific coast is owned by railways. The same act provides that railroads may not own or control steamship lines anywhere in the domestic trade of the United States, if such control is not for the public good and in any way excludes or reduces competition on the water route. It prohibits any lines operating in violation of the anti-trust law from using the canal, even though the almost universal practice of deep sea steamship lines is to co-operate in the making of rates. Would it not be wiser to subject steamship lines to reasonable government regulation such as is suggested by the Committee of the Merchant Marine and Fisheries of the House of Representatives, and then to permit them to co-operate subject to supervision by the Interstate Commerce Commission; and also under these conditions to permit railroads to operate vessels through the canal or elsewhere? It is a short-sighted policy which endeavors to penalize all railroads for the past faults of a few, to prohibit co-operation where free competition does not exist, and to use this great waterway as a means of enforcing the Sherman anti-trust act.

The economic efficiency of the canal could be further promoted by a change of existing laws in such a way as to permit exporters to combine or coöperate in their foreign trade. This has been the successful practice in foreign countries and it is well known that success in the exportation of American manufactures has been confined largely, although not entirely, to a limited number of large industrial consolidations. Why not permit these concerns to enter the export trade without fear of violating the law of the land? And why not permit smaller exporters to coöperate and thereby obtain a fair share of the foreign trade? American manufacturers can not be expected to fight each other and also to fight strongly organized foreign rivals.

Finally, it is earnestly to be hoped that the trading rights of the United States will at all times be maintained in the markets of the

world. American exporters and importers are not entitled to any unfair advantages, but they are entitled to an open door in China, unless China voluntarily closes it to all countries alike, also to open trade routes and to protection against unlawful interference with peaceable commerce. The canal should prove a boon to American commerce and industry, but its influences can be greatly enhanced by an aggressive commercial policy and a realization that American exporters must compete against powerful foreign rivals. It behooves the shippers and producers of the United States first of all to make every effort to further their foreign sales. Secondly, it behooves the government to let it be known that the nation stands behind them. Though the United States may never be so closely dependent upon foreign trade as our less fortunate foreign rivals, for we are blessed with an unequalled domestic market, the time when supplementary foreign markets are necessary has arrived.

G. G. HUEBNER.

University of Pennsylvania.

REVIEWS AND NEW BOOKS

General Works, Theory and Its History

The Happiness of Nations: A Beginning in Political Engineering.
By JAMES MACKAYE. (New York: B. W. Huebsch. 1915.
Pp. 256. \$1.25.)

The title of this book is plainly suggested by that of Adam Smith's great work, and Mr. MacKaye makes it clear that he has set out to do for the science of happiness what Adam Smith did for the science of wealth. It is a large undertaking, and the reader finds himself wishing that the author were not so frequently prevented, by the limits of his space, from elaborating some of his points as fully as their importance demands.

The author bases his attempt to establish a science of political engineering on the "simple and unassailable assumption that the goal of nations or of society is to do right, and to avoid doing wrong." It is necessary, therefore, at the outset, to determine the logical criteria of right and wrong. All moral codes may be divided into two classes, the intuitionist and the hedonistic. The philosophy of intuitionism is examined by the author, critically and fairly, and is found to be illogical and inadequate, in spite of its almost universal acceptance by the moral philosophers of the past. Of all hedonistic codes that which is of greatest interest to mankind as a whole, and which is therefore the safe guide for political conduct, is the utilitarian. Its goal is the "maximum quantitative excess of happiness over unhappiness among mankind as a whole, during the foreseeable future." It concerns itself solely with the amount of happiness, not at all with its distribution. Orthodox economics makes the mistake, very common among thinkers on ethical subjects, of confusing happiness with the causes of happiness. The economic reasoning is thus: Since wealth is an essential for happiness, that nation first months of operation would, even in times of peace, be abnormal therefore the goal of national effort should be the greatest possible production of wealth. The fallacy lies in ignoring consumption, which is a much more vital interest than production. Production exists merely for the sake of consumption, and if productive activities are carried to the point where they interfere with the greatest possibilities of consumption, they defeat the

ends of happiness. The end is sacrificed to the means. The author proceeds to analyze consumption and the consumptive efficiency of mankind, in order to indicate how consumption may be so directed as to produce the greatest total amount of happiness. It is shown that the greatest total amount of happiness from a given amount of production will result in a society where there are no very high, and no very low, rates of consumption among the members. Thus democracy finds a logical basis in utilitarianism. The question as to who should direct the productive and consumptive acts of society is examined, with the conclusion that, in general, socialism should be promoted in production, and individualism in consumption.

Up to this point the author's treatment is satisfying and his argument convincing. His identification of logic with common sense is justified in his own discussions. The last section of the book, however, contains a rather grievous disappointment. The author now leaves the position which he took at the outset, of confining his analysis to the human species, and shows that, logically, perfect altruism ought to concern itself with happiness among all sentient beings, thinking, as always, only of the amount of happiness, not of its distribution. The reader expects this proposition to be followed by a consideration of the duty of man to the other sentient animals on the globe. Instead of this, however, the author propounds the surmise that ultimately the production of happiness will require "the coöperation of two distinct classes of sentient beings," one of which shall be equipped in the highest degree for producing happiness, and the other for feeling happiness. This second class "will not necessarily or even probably possess either intelligence, altruism or will." Its sole function will be to feel happiness. The disappointment which this finale involves is softened a little, but only a little, by the author's recognition of the extreme, not to say fantastic, character of his supposition. He asserts that the scientific imagination can easily conceive of such an evolution, in the light of what has been accomplished in the past. This is true. But the author's position would be much strengthened if he had done two things: first, shown that there has been some indication of the beginnings of such a process of evolution in the history of mankind during the last few thousand years; and, second, considered the question whether there do not already exist, among

sentient beings, types which, in respect to their capacity for feeling happiness, resemble the postulated new species much more closely than does man. In that case perfect altruism would seem to require that man devote his energies to promoting the happiness of these non-human groups, in the interval of waiting for the evolution of the new species. Judging by external expressions, it is only a few times a year that the ordinary human being experiences the ecstatic joy felt by a dog on the return of his master after a two hours' absence. It is the rare human individual who ever achieves the state of placid contentment and peace exhibited by the cat dozing before the fire. It would have been logical if the author, before asking his readers to contemplate seriously the evolution of a species of beings of whom there is not now the faintest foreshadowing, had discussed the question whether the interests of utility in the universe would not best be subserved, for the present, if men, who have the necessary intelligence, altruism, and will, devoted their entire time to creating happiness for the largest possible number of cats and dogs.

HENRY PRATT FAIRCHILD.

Yale University.

NEW BOOKS

BAGEHOT, W. *The works and life of Walter Bagehot*. The "Works" in nine volumes; the "Life" in one volume, by MRS. RUSSELL BARRINGTON. (New York: Longmans. 1915. \$25.)

BLACKMAR, F. W. and GILLIN, J. L. *Outlines of sociology*. (New York: Macmillan. 1915. Pp. viii, 586, illus. \$2.)
First published in 1905 under the title, *The Elements of Sociology*.

BOGART, E. L. *Business economics*. (Chicago: LaSalle Exten. Univ. 1915. Pp. viii, 268.)

COKER, F. W. *Readings in political philosophy*. (New York: Macmillan. 1914. Pp. xv, 573.)

FERRIÈRE, A. *La loi du progrès en biologie et en sociologie et la question de l'organisme social*. (Paris: Giard & Brière. 1915. Pp. 680. 15 fr.)

GIDE, C. and RIST, C. *A history of economic doctrines. From the time of the physiocrats to the present day*. Authorized translation by R. RICHARDS, from the second revised and augmented edition of 1913 under the direction of the late Professor WILLIAM SMART. (New York: Heath. Pp. xxiii, 672. N. d. \$3.)
Reviewed by James Bonar in the REVIEW for June, 1911 (vol. I), p. 306.

HAMILTON, W. H., editor. *Current economic problems. A series of readings in the control of industrial development.* (Chicago: Univ. Chicago Press. 1915. Pp. xxxix, 789. \$2.75.)

HIRST, F. W. *The political economy of war.* (London: Dent. 1915. 5s.)

To be reviewed.

INGRAM, J. K. *History of political economy.* New edition prepared by W. A. Scott with introduction by R. T. Ely. (London: Black. 1915. 7s. 6d.)

JONES, J. H. *The economics of war and conquest. An examination of Mr. Norman Angell's economic doctrines.* (London: King. 1915. Pp. 178. 2s. 6d.)

LEVY, H. *Vorratswirtschaft und Volkswirtschaft.* (Berlin: Springer. 1915. Pp. vii, 59.)

MORET, J. *L'emploi des mathématiques en économie politique.* (Paris: Giard & Brière. 1915. Pp. 276. 6 fr.)

NORTH, C. C. *The sociological implications of Ricardo's economics.* (Chicago: Univ. Chicago Press. 1915. Pp. 65. 50c.)

The thesis set forth in this doctor's dissertation is "that the economic factor in any situation is itself not accurately described until it is correlated with other social factors." The author admits that economic science is possible and well worth while as an attempt to point out the tendencies of economic forces, but he claims that Ricardo and his followers grievously erred in that they neglected the non-economic factors in human life and were unable to see social reality as a whole. By their abstract method they perverted economic science and stood in the way of social reform.

It is not quite clear whether the author means by "sociological implications" the fundamental assumptions of Ricardo and his school, such as perfect competition and the perfect mobility of labor and capital, or whether he refers to the inferences which they drew when they opposed proposals for social reform on the ground that they ran counter to economic law and presumed to say the last word on subjects running far beyond the scope of mere economic science. If the author refers chiefly to the assumptions of Ricardo it may be said that he does not sufficiently recognize the theoretical value of economic fictions. If, on the other hand, he is discussing "the implication that a description of the mechanism of production and exchange was the final word in the treatment of social well-being," it must be admitted that Ricardo and his followers had a somewhat narrow view of human life, frequently posed as defenders of existing social conditions, and too often assumed a pharisaical attitude toward social reformers.

The author has written an interesting and important essay, and it is hoped that he will continue his studies in the method of economic science, a subject that has been relatively neglected in recent years.

J. E. LEROSSIGNOL.

OLDERSHAW, L. *Analysis of Mill's principles of political economy.* (New York: Longmans. 1915. 90c.)

PÉRET, R. *La puissance et le déclin économique de l'Allemagne.* (Paris: Alcan. 1915. 0.60 fr.)

PUTNAM, G. E. *Practice problems in economics for the use of elementary students.* (Lawrence, Kans.: Univ. Kansas Press. 1915: Pp. 80. 50c.)

SCHLESINGER, K. *Theorie de Geld- und Kreditwirtschaft.* (Leipzig: Duncker & Humblot. 1914. Pp. vi, 176. 4.50 M.)

WOLF, A. *The philosophy of Nietzsche.* Studies in economics and political science, no. 45. (London: Constable. 1915. Pp. 116.)

Syllabus of the principles of economics. (New York: New York Univ. 1915. Pp. 52. 50c.)

Economic History and Geography

Economic Geography. By JOHN McFARLANE. (New York: The Macmillan Company. N. d. Pp. vii, 560. \$2.25.)

The distinguishing feature of this volume is that the author has undertaken to divide the political units of the world into natural regions; and, with these as a basis, he proceeds to discuss the influences of geographic and other factors upon the economic activities of the various population groups within the different regions. Unlike some other books which undertake to cover the same general field of study, there is comparatively little space given to a discussion of general considerations constituting the influences of "controls" upon human activity. As a matter of fact, there are to be found 26 pages of preliminary discussion before the author launches into a treatment of the various political units. This introductory material embraces three chapters, of which the first discusses the physical conditions of economic activity, the second, climate, while the third is concerned with a discussion of vegetation. On the whole the volume is a good piece of work and worthy of careful consideration by students and teachers of economic geography.

The author believes that logically "the theory of natural regions implies the treatment of the earth's surface quite independently of the political boundaries which may be traced upon it." But, continuing the discussion, he very correctly points out that in economic geography political boundaries should not be disregarded; for, as he puts it, "the economic development of a country is affected not only by the nature of the geographic

control, but also by the political conditions which prevail. National boundaries cannot be ignored without, to some extent, losing sight of the interaction which takes place between man and his environment." Undoubtedly, this belief prompted him to start with the political units before proceeding to set the limits of the so-called natural regions.

The book contains no large number of new instances of interactions between man and his environment, nor can it be said that it contributes any considerable number of new concepts within the field of economic geography. It does contain, however, a large mass of accurate, up-to-date, concrete data of interest to students of economic geography. The book should find its chief mission as a work of reference. In any event, it is not particularly well adapted for use as a textbook in this country, however valuable it might be regarded by some for such a purpose in the British Isles or on the Continent. This opinion is held in part, at least, because of the following distribution of space. The sections on the United States occupy only 36 pages, and those on Canada 23 pages; the whole continent of North America is treated in 84 pages. Europe, Asia, Africa, South America and Australasia occupy, respectively, 163, 100, 59, 43 and 33 pages. Moreover, values, such as those for foreign trade, are expressed in pounds sterling rather than in dollars. This is as might be expected, inasmuch as the book originally appeared in England, and the author is a lecturer in geography in the University of Manchester.

There are eighteen maps of which eleven illustrate natural regions, while the remainder are rainfall maps reproduced with the permission of the Oxford University Press. At the end of the volume there is a bibliography including the more important works consulted by Mr. McFarlane in preparing his book.

AVARD LONGLEY BISHOP.

Sheffield Scientific School.

L'Evoluzione Agricola nel Secolo XVIII e le Cause Economiche dei Moti del 1792-98 in Piemonte. By GIUSEPPE PRATO.

Memorie della Reale Accademia delle Scienze di Torina, serie II, tom. LX. (Torino: Vincenzo Bona. 1909. Pp. 106.)

Il Problema del Combustibile nel Periodo Pre-Rivoluzionario come Fattore della Distribuzione Topografica delle Industrie. By GIUSEPPE PRATO. Memorie della Reale

Accademia delle Scienze di Torino, serie II, tom. LXII.
(Torino: Vincenzo Bona. 1912. Pp. 116.)

Un Capitolo della Vita di Giovanni Law (da Documenti inediti).

By GIUSEPPE PRATO. Memorie della Reale Accademia delle Scienze di Torino, serie II, tom. LXIV. (Torino: Libreria Fratelli Bocca. 1914. Pp. 31.)

La Teoria e la Pratica della Carta-Moneta Prima degli Assegnati Rivoluzionari. By GIUSEPPE PRATO. Memorie della Reale Accademia delle Scienze di Torino, serie II, tom. LXV. (Torina: Libreria Fratelli Bocca. 1915. Pp. 42.)

L'Espansione Commerciale Inglese nel Primo Settecento in una Relazione di un Inviato Sabaudo. By GIUSEPPE PRATO. Miscellanea di Studi Storici in Onore di A. Manno. (Torino: Officina Poligrafica Editrice Subalpina "Opes." 1911. Pp. 29.)

These studies of Signor Prato are worthy contributions to scholarship. They are based entirely upon documentary researches and discoveries in the Turin archives, and are backed by a thorough knowledge of the existing literature. The introductions in which setting is given against the background of work already done are brilliant. In especial measure Prato keeps the open and critically judicial mind, particularly when dealing with John Law about whom polemic has been so bitter. Moreover, he is constantly on the alert for anything which may point out trends and tendencies in the development of thought on economic matters, and he endeavors to assign to his subjects not only their proper place in Piedmontese history, but to relate them to the general movement of European development.

In the first essay Prato shows how the organization of agriculture in the Piedmont was changed, beginning about 1750, by the taking up of the lands of the country by a capitalist class. In the displacement of the old cultivators, their reduction to the ranks of wage workers, their submission to rack-rents which resulted, together with the very high prices and dearth at the end of the century, Prato finds the conditions which favored the spread of the revolutionary movement, rather than in a general low standard of life and high feudal exactions.

The second study necessitates a description of the state and progress of Piedmontese industries, which makes it of exceptional value to the student of the problem of industrial organization in the eighteenth century. Owing to the limited area of the

country and the complete records, the Piedmont offers an admirable opportunity to study the forest economy of a typical European state before the discovery of coal. The importance of the subject appears from the conclusions that the wood-fuel supply influenced the development of industry, retarding it by its scarcity, and that in the localization of industry it was a more important factor in the Piedmont than the proximity of supplies of other materials or the closeness of markets.

In his paper on John Law, Prato treats of Law's visit to the court of Victor Amadeus II at Turin, adding much to Domenico Perrero's description of the incident. In his Turin projects, Law evidenced the most modern and correct principles of banking, which he had evolved and was eager to practice. After this scientific vindication of Law, Prato rather gratuitously attempts to rehabilitate him morally and to explain his departure from true banking principles in Paris. This lapse was not due to moral turpitude, in Prato's opinion, but had a psychological explanation. There were really two Laws, one imbued with the idea of freedom from a study of Dutch and English institutions, the other born from sudden contact with the conception of the absolute State, representing the general good, personified by the king in France. In the financial chaos and circumstances of the time, Law discarded his untried theories acting in all good faith with a desire quickly to achieve the general good.

In the fourth pamphlet named, Prato has published, with a brief introduction, a pamphlet of Giovan Battista Vasco, in which Vasco made the first attempt to analyze clearly the kinds of paper money, and to clear up the confusion of terms which had hitherto been general.

The fifth pamphlet is the publication, with a short introduction, of the *Relazione* of Rovero di Cortanze, Piedmontese envoy to England, written in 1726, on the commerce of Great Britain. The document is of the highest value, since it adds another to the very few contemporary descriptions of English commerce and trade in the eighteenth century. Incidentally, much information is given about the commerce of the rest of Europe. Cortanze was especially interested in the reasons for English industrial expansion, which had already begun, and he was anxious that Italian states should imitate her methods to increase their own prosperity.

FREDERICK C. DIETZ.

NEW BOOKS

ALVORD, C. W. and CARTER, C. E. *The critical period 1763-1765.* Collections of the Illinois State Historical Library, vol. X. British series, vol. I. (Springfield, Ill.: State Hist. Soc. 1915. Pp. 57, 597.) To be reviewed.

BARITSCH, K. *Deutsche Industrien und der Krieg.* (Hamburg: Boysen & Maasch. 1915. Pp. 44. 1 M.)

BEARD, C. A. *Economic origins of Jeffersonian democracy.* (New York: Macmillan. 1915. Pp. ix, 474.) To be reviewed.

BUERKLIN, W. *Süd- und Mittel-Amerika unter dem wirtschaftlichen Einflusse des Weltkrieges.* (Göttingen: O. Hapke. 1915. 4.60 M.)

CLAPP, E. J. *Economic aspects of the war.* (New Haven: Yale Univ. Press. 1915. Pp. xiv, 340. \$1.50.)

CURR, A. L. *Commercial geography. An intermediate textbook.* (New York: Macmillan. 1915. Pp. 440. \$1.10.)

DAWES, C. G. *Essays and speeches. With extracts from the journal of Rufus Fearing Dawes and an address upon the Army of the Potomac by General R. R. Dawes.* (Boston: Houghton Mifflin. 1915. Pp. vi, 427. \$3.)

Contains addresses on trusts and trade combinations, text of the anti-trust law, insurance of bank deposits, Federal Reserve act, and railroad rates, delivered during the past ten years.

DODD, W. E., editor. *The Riverside history of the United States.* Four volumes. I. *Beginnings of the American people (1492-1783),* by C. L. BECKER. II. *Union and democracy (1783-1828),* by A. JOHNSON. III. *Expansion and conflict (1828-1865),* by W. E. DODD. IV. *The new nation (1865-1914),* by F. L. PAXSON. (Boston: Houghton Mifflin. 1915. Pp. xii, 275, xviii; x, 346, xvii; xii, 329, xxiv; 342, xiv. \$1.25 each.)

This is one of the most satisfactory of the moderate-sized histories of the United States. By omitting a mass of minor details, and assuming that the reader has already really mastered a high school text, the authors of this work for college use are left free to treat our colonial and national development in a broad, comprehensive, topical manner; and while the political and constitutional aspects are presented with abundant fullness, it has been possible, at the same time, to give more than ordinary attention to economic subjects. In the first volume these topics occupy, as is natural, comparatively small, though sufficient, space; in the subsequent volumes increasing attention is given to agriculture and manufactures, trade and transportation, banking, monetary legislation, tariffs, taxation, receipts and expenditures; so that the reader is far better informed on such questions by this work than by most general histories of the United States.

The maps and diagrams are of varying degrees of quality; those

dealing with political matters are as a rule accurate and effective, while those illustrating economic discussions are not infrequently misleading or worse. In volume IV, for example, the chart on page 120 is palpably at variance with the figures printed on the same page; the lines of the chart on page 227 do not harmonize with the data of the *Statistical Abstract* on which the chart is based; the sections of the diagram on page 153, representing various areas, are drawn to at least three different scales. Notwithstanding these blemishes, which can easily be removed in a revised edition, the work as a whole may be commended for its scholarly content and for its well-arranged and interesting presentation.

C. F. A. CURRIER.

HALE, P. H., editor. *Hale's history of agriculture by dates*. (St. Louis, Mo.: Hale Pub. Co. 1915. Pp. 95. 50c.)

HIRST, F. W. *The political economy of war*. (London: Dent. 1915. Pp. 342. 5s.)

LAURÉ, M. J. *The property concepts of the early Hebrews*. Studies in sociology, economics, politics and history in the series of research bulletins of the University of Iowa, vol. IV, no. 2. (Iowa City: Published by the University. 1915. Pp. 98.)

A careful analysis is here made of all the Old Testament references to property in the light of general researches in early property history and with the aid of recent biblical criticism. In recent biblical criticism, however, the subject of property has not been fully considered. The keen appreciation of property is a Hebrew trait and the completeness of the records of the early history of this race makes the present analysis a valuable contribution to the discussion of property origins. Property is not considered as a mere fact of possession in animal and primitive society, but among the secondary traditions as an animistic idea, a fact of the social development of the "consciousness of kind." This idea gradually establishes itself above the primitive right of the stronger. The property idea is traced from early possession and tolerance to the conception of the right of Jahweh, chiefly in the divine right to the first-born. This is explained as the notion of taboo. From the divine right the same taboo is gradually extended to the sacredness of slaves and other articles belonging to human individuals. Private property in land is a much later development than property in personal things. Real property is developed out of the nomadic claim as expressed, for example, in the "whole land before" Abraham into the incipient land property arising by purchase to Abraham's immediate descendants. At the time of the prophets the question of legal title has a larger part in the discussions of the writers. In the later period also the point of view as to the wealth of individuals has changed. What was at first a sign of the divine favor is now a sign of the wickedness of the individual. "Rich men are full of wickedness." This change of theory accompanies the change from a nomadic and patriarchal society to

one attached to the soil and increased to the extent of pressing on the means of subsistence.

The evidence of the Old Testament is clearly made to confirm the analysis of property as an extension of personality and as a claim on persons. Thus Abraham was very rich, "kabed," that is to say heavy. Naturally personal slaves, captives and women, were the first forms of property. Other forms of personal property appear next, while property in realty arises later and the notion of wealth as capital goods appears but vaguely.

J. H. UNDERWOOD.

LEONG, Y. K. and TAO, L. K. *Village and town life in China*. With a preface by L. T. HOBHOUSE. (London: Allen & Unwin. 1915. Pp. xi, 155. 5s.)

This book might bear the subtitle "A Study in Democracy," since it exhibits a local political organization, controlling the daily activities of the people "as independent of the central government as any self-governing British Colony is independent of the Imperial Government." When the local will and the imperial edict collide it has gone hard with edicts. An obvious inference, not deduced by the present writers, is the extreme difficulty now facing any new government which not only centralizes authority as present conditions demand, but adds to the difficulty of this change by denying even a representative voice in political matters to a population long accustomed to self-rule.

The work is a valuable addition to the growing literature on Chinese institutions written by natives of China educated in occidental scientific method and writing for Europeans and Americans.

A. P. WINSTON.

LYDE, L. W. *An atlas of economic geography*. (London: Oxford Univ. Press. 1915. Pp. 64. \$1.75.)

MATTHEWS, A. H. H. *Fifty years of agricultural politics. The history of the Central Chamber of Agriculture, 1865-1915*. (London: King. 1915. Pp. 448. 7s. 6d.)

ORFIELD, M. N. *Federal land grants to the states, with special reference to Minnesota*. Studies in the social sciences, no. 2. (Minneapolis: Univ. Minn. 1915. Pp. 275. \$1.)

PALMER, T. W., JR. *Guide to the law and legal literature of Spain*. (Washington: Library of Congress. 1915. Pp. 174.)

Designed to furnish information as to the private and public law of the country and as to recent legislation, particularly that designed to meet social and economic problems, and also to furnish the jurist and historian with a guide to contributions to the history, theory, and philosophy of law.

POTTER, Z. L. *Industrial conditions in Topeka*. (Topeka: Topeka Improvement Survey. 1915. Pp. 56.)

ROBINSON, E. V. D. *Early economic conditions and the development*

of agriculture in Minnesota. The University of Minnesota studies in the social sciences, no. 3. (Minneapolis: Univ. Minn. 1915. Pp. v, 306. \$1.50.)

To be reviewed.

SCHMIDT, P. H. *Weltwirtschaft und Kriegswirtschaft.* (Zürich: Art. Inst. Orell Füssli. 1915. Pp. 23. 0.80 M.)

SCHUMACHER, H. *Deutsche Volksernährung und Volksernährungspolitik im Kriege.* (Berlin: Heymann. 1915. 2 M.)

SELIGMAN, E. R. A. *An economic interpretation of the war.* Reprinted from "Problems of readjustment after the war." (New York: Appleton. 1915. Pp. 72.)

SERING, M. *Die deutsche Volkswirtschaft während des Krieges von 1914-1915.* (Berlin: Reimer. 1915. Pp. 20. 1 M.)

SHAMBAUGH, B. F., editor. *Applied history.* Vol. II. (Iowa City: State Hist. Soc. 1914. Pp. xx, 689. \$3.)

Contains chapters on "Social legislation in Iowa," by J. E. Briggs; on "Child labor legislation in Iowa," by F. E. Haynes; and on "Poor relief legislation in Iowa," by J. L. Gillin.

SLATER, G. and SHOTWELL, J. T. *The making of modern England.* New revised edition. (Boston: Houghton Mifflin. 1915. Pp. xli, 308. \$2.)

A prefatory note states that the text of the English edition has not been altered but that some apparatus has been added in the appendices and also bibliographies and a chronological table.

SOMBART, W. *Krieg und Kapitalismus.* (Leipzig: Duncker & Humblot. 1915. 6 M.)

TERRY, S. B. *The financing of the Hundred Years' War, 1337-1360.* Studies in economics and political science, no. 35. (London: Constable. 1914. Pp. xx, 197. 6s.)

The outbreak of the Hundred Years' War, says Mr. Terry, presented the English government with a double problem: how to increase the revenue and how to realize on taxes quickly. The revenue was increased by making the taxes on personal property, hitherto only occasional levies, virtually annual contributions; and by raising the rate of the customs, particularly the tax on wool. In solving the second part of the problem, Edward III employed the traditional method of the crown. He borrowed from merchant capitalists and repaid them by assignments on the revenue directed to the treasury or the tax collectors. It is with the second part of the problem that Mr. Terry is mainly concerned. Though he sketches the history of taxation, he makes his chief contribution to our knowledge in connection with the comparatively little known subject of the relations between the crown and the capitalists at this time.

The thesis, which is based on a wealth of details, is that at first the king negotiated with capitalists of various lands, English, Flemish, Italian, and the Hanse. For a time the Lombards were his main reliance, but in 1344 they were ousted through the hostility of the English. Native merchants then acted as the royal financiers until the time of the Black Death which ruined them by its depression of business. From 1353 to 1360 the king dealt little with money-lenders and his revenue as collected by the royal officials sufficed for his needs. The customs were managed in a more efficient manner by the establishment of about a dozen staple towns in England. The author thinks that the administration of the finances improved during the period. Other points of interest which are illustrated are the preëminence of wool among English products, the growth of trade, the strength of the English financiers, and the slipshod character of royal finance at its best.

Mr. Terry has done considerable work in the Manuscript Rolls of the Exchequer and is the first to make use of the great mass of material contained in the printed calendars of the Patent and Close Rolls. The history of any royal loan is an intricate affair. It is usually difficult and sometimes impossible to find out how much of a loan was actually received by the crown and to what extent the money was repaid. Each case is traced with great care and the result is that the author has assembled a valuable body of facts on the finances of the early part of the reign.

SYDNEY K. MITCHELL.

THOMPSON, C. M. *Reconstruction in Georgia, economic, social, political 1865-1872.* Columbia University studies in history, economics and public law, vol. LXIV, no. 1. (New York: Longmans. 1915. Pp. 418. \$3.)

Contains chapters on labor and land, commercial revival, industry, commerce and banking, and agriculture, 1867-1872.

Index of economic material in documents of the states of the United States. New Jersey, 1789-1904. Prepared for the Department of Economics and Sociology of the Carnegie Institution of Washington, by ADELAIDE R. HASSE. Publication no. 85. (Washington: Carnegie Inst. 1915. Pp. 705.)

Monographs on agricultural coöperation in various countries. (Rome: Intern. Inst. Agr. 1915. Pp. vii, 213. 350 fr.)

The municipal index. An index to current municipal literature and a list of important books on municipal subjects. January-December, 1914. (New York: Munic. Journ., 50 Union Sq. 1915. Pp. 70. 50c.)

Classifies and briefly describes periodical articles on roads, sanitation, water supply, lighting and power, fire and police, government and finance, street cleaning, traffic and transportation, structures and materials.

Agriculture, Mining, Forestry, and Fisheries

The World's Cotton Crops. By JOHN A. TODD. (London: A. & C. Black, Ltd. 1915. Pp. xiii, 460. Illustrated. 10s.)

"The main factor in the future of the cotton trade is that of supply. Demand at a reasonable price may be almost taken for granted." This conclusion is drawn by Professor Todd from a brief comparison of price changes, raw cotton production, and increase in manufacturing capacity during recent years, with reference also to the potential demand of the world for cotton goods. He therefore considers the great problem for cotton manufacturers to be: "Whence are larger supplies of raw cotton to be obtained in the future?" In order to shed light upon this question, this book has been written. It furnishes a description of the present conditions and future prospects of raw cotton production in all parts of the globe. Especial attention is paid to the experiments which are being carried on with the assistance of cotton-growing associations and government aid in Asia and Africa. For each district a description is given of the agricultural and climatic conditions, methods of cultivation, transportation facilities, ginning, baling, and pressing methods, and other factors affecting raw cotton production.

Whether or not one is willing to grant that the question of supplies of raw material is as predominant a factor as Professor Todd believes, nevertheless there is no doubt that the cotton manufacturing industry of the world will continue to expand and that the larger and larger supplies of raw cotton will be needed. It is well worth while, therefore, to consider the possible sources whence these supplies may be secured.

Professor Todd is less optimistic about the prospects for an increased production in the United States than in most other countries. The boll weevil is a serious hindrance and the lack of sufficient labor at low wages presents an almost insuperable difficulty. He speaks disparagingly of the negroes and considers them less satisfactory as farm laborers than during the days of slavery. But, in view of the relatively small profits in cotton raising in this country, he believes that cotton is and must remain a "black man's crop"; the conditions are not favorable for the white farmer. Hence a speedy check to the spread of cotton growing in Texas and other western states is anticipated. It is doubtful, however, if the prospects are actually as poor

as Professor Todd states. His conclusions regarding the new enterprises in Asia and Africa, on the other hand, reflect the enthusiasm of the promoters; prolonged experience with "cheap labor" may necessitate important qualifications.

In describing the methods of baling and handling cotton in the United States, the careless practices which disgrace the American cotton bale are again criticised and a plausible remedy is suggested. The cause of these conditions is found to lie in the lack of continuity of interest and in the system of sampling. From the gin to the factory the cotton passes through numerous hands and no one is held responsible for the wretched condition in which the cotton finally arrives. Lack of responsibility results in lack of care. Furthermore, according to present trading methods, the cotton must be sampled at various stages in the marketing process, and at each sampling a fresh hole is dug into the bale, never to be patched up. The remedy would be to have the bale compressed at the gin and a set of certified samples taken from the press box, rendering further sampling unnecessary. The immediate adoption of this reform is not to be expected, owing to the influence of old customs and the opposition of vested interests.

A concluding chapter summarizes some of the effects of the war upon the cotton trade during the autumn of 1914. Useful statistical tables are given in the appendix.

MELVIN T. COPELAND.

Harvard University.

NEW BOOKS

COLE, L. H. *Report on the salt deposits of Canada and the salt industry.* (Ottawa: Dept. Mines. 1915. Pp. 152, xxii.)

GILLS, S. A. *Money in fox farming.* (Jersey City, N. J.: International Letter Club. 1915. Pp. 32. 25c.)

INGALLS, W. R. and others. *Rules and regulations for metal mines.* Bureau of Mines Bull. 75. (Washington: Bureau of Mines. 1915. Pp. xvi, 296.)

MELVILL, C. D. and others. *Reports on fisheries investigations in Hudson and James bays and tributary waters in 1914.* (Ottawa: Dept. Naval Service. 1915. Pp. 85.)

PALMER, B. *Swamp land drainage with special reference to Minnesota.* University of Minnesota studies in the social sciences, no. 5. (Minneapolis: Univ. Minnesota. 1915. Pp. 138.)

POE, C. H. *How farmers coöperate and double profits; first-hand re-*

ports on all the leading forms of rural coöperation in the United States and Europe. (New York: Orange Judd Co. 1915. Pp. 244. \$1.50.)

ROUSH, G. A. *Mineral industry.* (New York: McGraw-Hill. 1915. Pp. 1000. \$10.)

SKINNER, W. R. *The oil and petroleum manual for 1915.* (London: Skinner. 1915. Pp. 279. 4s.)

STANSFIELD, E. and CARTER, F. E. *Products and by-products of coal.* (Ottawa: Dept. Mines. 1915. Pp. 51.)

TEN EYCK, A. M. *Wheat. A practical discussion of the raising, marketing, handling and use of the wheat crop, relating to the Great Plains region of the United States and Canada.* (Lincoln, Nebr.: Campbell Soil Culture Pub. Co. 1914. Pp. 194.)

WILLIS, J. C. *Agriculture in the tropics. An elementary treatise.* Second edition. (New York: Putnam. 1914. Pp. xvi, 223.)

Complete record of Lake Superior iron ore shipments; annual shipments from each mine for past twenty years; total tonnage shipped by mines and ranges since 1844. (Cleveland: Penton Pub. Co. 1915. 25c.)

Annuaire international de statistique agricole 1911 et 1912; 1913-1914. (Rome: Inst. Agr. Intern. 1915. Pp. xxxiv, 622; xliv, 786.)

Manufacturing Industries

NEW BOOKS

VAN DELDEN, W. *Studien über die indische Juteindustrie.* (Munich: Duncker & Humblot. 1915. 5 M.)

DONALD, W. J. A. *The Canadian iron and steel industry. A study of the economic history of a protected industry.* Hart, Schaffner & Marx prize essays, XIX. (Boston: Houghton Mifflin. 1915. Pp. xv, 376. \$2.)
To be reviewed.

DUNBAR, D. E. *The tin-plate industry. A comparative study of its growth in the United States and in Wales.* Hart, Schaffner & Marx prize essays, XX. (Boston: Houghton Mifflin. 1915. Pp. 133. \$1.)
To be reviewed.

HUSBAND, J. *Steam and steel.* (Boston: Houghton Mifflin. 1915. \$1.)

NEYSTROM, P. H. *Textiles.* (New York: Appleton. 1915. \$1.50.)

Transportation and Communication

Railroads. Finance and Organization. By WILLIAM Z. RIPLEY. (New York: Longmans, Green and Company. 1915. Pp. xix, 638. \$3.00.)

The second volume of Professor Ripley's *Railroads*, dealing

with *Finance and Organization*, fulfills the expectations roused by his *Rates and Regulation* which appeared in 1912. Here are found the same comprehensive grasp of the subjects dealt with, the same wealth of illustration, the same intimate acquaintance with railroad practice past and present, and the same vigorous style which characterized the earlier volume. While the needs of the student seem to have been in the mind of the author (p. ix) the book is more particularly addressed to executives, bankers, and directors. "It aims to be a constructive essay in government systematizing information for others in a single department of the business of the state; and offering, it may be, helpful suggestions at a critical time" (vi). It is, therefore, as a tract for the times, rather than as a text, that the book is to be judged.

Judged from this point of view, the book has high merit. Every chapter is full of a zeal which shows that the task is taken seriously; criticism of policies both public and private and of men in high places is frank and vigorous; and the ethical tone of the discussion is high. In some places, however, there is uncertainty where those seeking guidance would like certainty, vagueness where definite conclusions are desired. In following his favorite method of reaching his point through the use of concrete example the author does not always make his conclusion obvious. Thus in the admirable opening chapter considerable space is given to a description of construction company finance. If the reader were left to draw his own conclusions from the examples presented as to the merits of this financial device, he could hardly fail to condemn it; yet we are told (p. 50) that the record is not "to be interpreted as necessarily an indictment of the construction company." Surely a device which lends itself so readily to evil, usually corrupt, practice that it can be said even of present-day instances, collected in no muck-raking spirit, that they have without exception been "disastrous in their outcome," is condemned by the record.

Chapters 2 to 9 inclusive, constituting about one half the volume, deal with questions of capital and capitalization. Nowhere else has the subject been treated so comprehensively and satisfactorily as here. The chapters likely to attract most attention are those on stock watering and the regulation of security issues. Professor Ripley disagrees with the Railroad Securities

Commission as to the adequacy of publicity in such matters. Publicity in every detail of financial operation is advocated as a matter of course; but publicity alone will not prevent certain abuses, and, once done, the evil can not be cured. Public regulation of issues is regarded as a necessity. At this point one of the important messages of the book is delivered: Financial regulation of interstate carriers by state authority is wholly inadequate and a grievous burden to the carriers. Whether federal incorporation is required to meet the exigencies of the case "would seem to be more problematical," but that federal authority should supplant state authority over capitalization, reorganization, and like matters, seems to the author clear and imperative. He would go further. "It is also daily becoming more clear that the conflict of State and Federal authority in the regulation of rates can be averted only by the assumption of unified financial control by the United States. Rates, service and finance are so completely interlocked that satisfactory regulation in each field can not be exercised except by the assumption of full authority over all the three domains alike" (p. 310).

Professor Ripley is convinced that the country is ready for such a transfer of power (p. 312). On what evidence he has reached this conclusion, contrary to that of the Securities Commission in 1911, does not appear. Recent experience may have convinced students of the need of the change; but in a democracy great masses of men have to be convinced; and it may be doubted whether as a practical program any point of it could be carried out, unless it be, possibly, the transfer of control over securities. It seems highly improbable, however, that control over rates and service will be readily surrendered. And this mainly for two reasons: Fear lest the lack of long-range regulation of a net of 260,000 miles would prove too great for the most capable of administrative bodies; and, second, fear lest a commission made the repository of such stupendous power could not resist capture by a body of carriers who know just what they want—an objection only partially removed by the proposal for a separate commission on capitalization. Moreover, the old contention that the states are valuable "experiment stations" has not lost its force. It will be remembered that about every gain made in railroad control in the United States has been made through the audacious efforts of the states, and it will be doubted whether these gains

could ever have been made from Washington. We say nothing of the less worthy motives which buttress the power of the states and will continue to do so, however injuriously that power may be exercised.

Two chapters are given to a review of the crop of problems, mostly unsettled as yet, growing out of the attempt during the past twenty years to determine a reasonable return. The analysis is helpful but leaves many questions "puzzling," "perplexing," "debatable." On the large issue as to what shall constitute the base for rate making the author holds that "despite its insecure legal footing," the actual cost of the property "seems to be not only the most natural but in many respects the fairest single basis for the reasonableness of rates." Nevertheless, it seems that some form of reproduction theory is accepted as final; otherwise his conclusion after reviewing the state physical valuations, so-called, can hardly be understood. Comparing security issues with "present physical value," he regards "the evidence as conclusive that over-capitalization does not exist" (344). The important fact seems to be lost sight of temporarily that these figures are by no means final. The findings of the Nebraska engineer, *e.g.*, have never been accepted by the state commission. (This valuation, by the way, was not made for tax purposes, p. 333). In the Minnesota rate case, counsel for the state argued not only against the use of "multipliers" in valuing the right of way, but against including any unearned increment in "fair value." There is no need of reviewing the swift rise of this question and that of the proper treatment of invested earnings. Professor Ripley recognizes the claim of the right of the community, as against the railroads, to the values it has created. "However accomplished," he says (p. 354) "the rôle of land values in rate-making, if not eliminated, ought certainly to be minimized. . . . The only fair criterion [for rates] should be the actual investment or sacrifice on the part of the owners of the enterprise."

In a similar way he recognizes the importance of the proper treatment of that element in the assets of a railroad arising from the investment of undivided earnings. The question of the ownership of such earnings is discussed in the chapter on stock watering, though it must be said in no very conclusive way (241-247). While the discussion at this point is upon the right

of shareholders to divide the surplus it is significant chiefly as bearing on their right to earnings on such surplus. The main argument of the book would seem to exclude such property from the base for rate making, but, choosing a middle ground in the controversy, the author holds that what to do with a company's surplus "will depend upon the circumstances, particularly upon the actual source of the surplus itself. . ." The sharp differentiation of a surplus arising from exceptionally intelligent management, coupled with manifestly fair treatment to the public, "from surpluses arising through public donations or an increment of land values on the one hand or an extortionate policy on the other, is sufficient to discourage loose generalization. In fine, each case must be judged upon its own merits." That is, we are left without any clear rule for the treatment of this important item. Until this and similar questions have been settled the sweeping conclusion "that the hoary-headed bogie of an immense over-capitalization of American railroads is laid at rest by the results of these official investigations" seems premature.

The last third of the volume describes admirably the existing intercorporate relations of carriers, the methods by which they have been brought about, and the dissolutions under the Sherman act, and closes with a chapter on pooling. A definite stand is taken for the repeal of the prohibition on pooling. Such repeal would produce steadiness in difficult traffic situations, it is argued, eliminate the wastes of competition, and especially that of round-about routing, and it might result in freeing the carriers from dependence upon the private car companies. The wastes of competition go on between great systems and are not likely to be stopped except by some plan of coöperation now forbidden.

Professor Ripley does not argue, as did the older advocates of pooling, for a policy of *laissez faire*. He accepts the principle of public regulation as a matter of course. Indeed, it may be said that a demand for more, rather than less, regulation is a distinct characteristic of the book. Illustrations have already been given in the discussion of capitalization. A further example is seen in the chapter on the "anthracite arrangement." "Final success," he says in dealing with this complex situation, "will be achieved only when the market price of anthracite, mining included with transportation, is brought definitely under govern-

ment control." On the other hand he is not disposed to account for present railway ills on the ground of over-regulation as has been the fashion during the last few years. An opportunity to encourage the attack on regulation was open in treating of the course of prices of railway securities (ch. 5); but he has found the causes for the decline of railway bonds in the practices of the railways themselves and in underlying economic forces, chief of which he holds is the fall in the value of money.

Whether one agrees with his main conclusions or not, one is bound to recognize the fact that Professor Ripley has set a new standard for the treatment of the railway question. The book is well made up. There is a good index, the appendix contains matter of interest, though more in the nature of footnotes than of appendixes, and the footnotes themselves and citations are copious and serviceable in spite of the frequent irritating omission of the authorship of the articles cited.

GEORGE O. VIRTUE.

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Nationalization of Railways in Japan. By TOSHIHARU WATARAI. Columbia University Studies in History, Economics and Public Law, Vol. LXIII, No. 2. (New York: Longmans, Green and Company. 1915. Pp. 156. \$1.25.)

In spite of his previous association with the work of the Imperial Board of Railways, Dr. Watarai finds himself dissatisfied with the results of the policy of nationalization adopted by Japan in 1906. Not that he is opposed to the principle of government ownership of railways. Rather he would approve if the state railways could be administered from the standpoint of public interests instead of from that of profitableness, but the status of the national finances of Japan makes this impracticable. He is forced, therefore, to the conclusion that there is no good reason for the maintenance of the policy of nationalization in his country.

Actually, the results of nationalization have been, on the whole, disappointing. The new policy was inaugurated under very promising conditions. The price paid for the purchased railways was high but not to such an extent that any difficulty was experienced in meeting interest obligations upon the 5 per cent state securities given in exchange for the properties. No attempt was made to take over the subsidiary and financially

less promising lines. The substitution of a single control for many diversified managements seemed to promise opportunity for considerable economies and fat surpluses were confidently looked forward to. The state had had experience in managing railways ever since their introduction in 1872, a network covering more than 1500 miles by the date of the nationalization law. Private railway construction had not begun until 1883. Three years after the institution of the policy of 1906, Parliament passed a law to secure fiscal autonomy to the state railway department.

What has been achieved so far? The state railways have been able to earn their 5 or 6 per cent, it is true, but the "fat" surpluses that were to provide for the continuous expansion of the railway system have been noticeable for their leanness. Fiscal autonomy has proved to be delusive, as the state railroad department is still left dependent on the general condition of the national treasury for funds to finance additions and improvements, and this branch of the government has not shown any alacrity in securing funds for purposes likely to be unproductive of revenue—on account of the large mileage of subsidiary lines required. In fact, the expansion of the railway network goes on at a slower rate than it did before nationalization. Nor has adequate improvement in traffic policy been achieved; archaisms and inconsistencies still survive. The anticipated betterment of the status of railway employees has failed to mature in any substantial way. The private lines, in spite of their limited sphere of operation, are earning 9 per cent as against the 6 per cent secured by the state, an interesting fact which Dr. Watarai explains as due to the policy of such lines in defraying capital expenses out of earnings, while, on the other hand, the state lines have failed to amortize their capital. But one would naturally inquire here as to the circumstances that have permitted so far-sighted a policy on the part of the private companies: unfortunately, the author leaves us without any clue.

The underlying reason for the adoption of the nationalization policy of 1906 was a military one, and, for the same reason largely, Dr. Watarai would retain the existing state system in the hands of the government; in any case, to lease or sell them would have a detrimental effect upon the public interests, as well as upon the national finances—a statement that the author ought to support by chapter and verse. Future railway expansion he would leave to private companies.

In general review, it may be said that the author shows an evident desire to be fair in his discussion and he makes a number of telling points, but the thesis as a whole suffers from a somewhat loose arrangement of material as well as, perhaps, from a certain scantiness of data. Its greatest strength lies in its historical and descriptive parts; its greatest weakness in its discussion of policy and theory. The failure to bring into more effective relief the results of private operation, before and after 1906, as contrasted with those secured by the state administration must be regretted. However, it has to be remembered that considerable difficulty attaches to the preparation of a thesis of this kind so far away from the main sources of information.

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NEW BOOKS

CLAPP, E. J. *The port of Boston, a survey of North-Atlantic seaports.* (New Haven: Yale Univ. Press. 1915. \$2.50.)

DONNELLY, W. C. *The intermountain case before the Interstate Commerce Commission; applications for relief under the fourth section.* (San Francisco: 1915. Pp. 24. 50c.)

FORD, BACON and DAVIS. *Analysis of present operation of the port of New Orleans with present and proposed systems of rates.* Vol. I. (New Orleans: Commissioners of the Port. 1915. Pp. 156.)

FRANKFURTER, F., editor. *A selection of cases under the Interstate Commerce act.* Pt. I. (Cambridge, Mass.: F. Frankfurter. 1915. Pp. viii, 312. \$1.50.)

FULLER, H. B. *The act to regulate commerce construed by the Supreme Court.* (Washington: John Byrne & Co. 1915. Pp. 585. \$6.)

Hsu, M. C. *Railway problems in China.* Columbia University studies in history, economics, and public law, vol. LXVI, no. 2. (New York: Longmans. 1915. Pp. 184. \$1.50.)
To be reviewed.

JACKMAN, W. J. and RUSSELL, T. H. *Transportation, interstate commerce, foreign trade.* (Chicago: National Institute of Business. 1915. Pp. 413. \$8.)

KETCHUM, E. S., editor. *Traffic geography.* (Chicago: American Commerce Association. 1915. Pp. xxxv, 321.)

LUST, H. C. *The act to regulate commerce, and supplemental acts.* (Chicago: LaSalle Exten. Univ. 1915. Pp. vii, 196.)

THOMPSON, S. *The railway library, 1914. Sixth series. A collection of addresses and papers on railway subjects, mostly delivered or published during the year named, also statistics for 1914.* (Chicago: Stromberg, Allen & Co. 1915. Pp. 470. \$1.)

TOMLINSON, W. E. *The North Eastern Railway, its rise and development.* (London: Longmans. 1915. Pp. xvi, 820. 21s.)

Central electric light and power stations and street and electric railways with summary of the electrical industries, 1912. (Washington: Bureau of the Census. 1915. Pp. 440.)

Express and parcel post comparative rate guide. (Providence, R. I.: Express Audit System Co. 1915. Pp. 178. \$5.)

Railroad statistics; comparative operating statistics of 53 of the principal railroads in the United States for the five years ending June 30, 1914. (New York: Price, Waterhouse & Co. 1915. \$5.)

Shipping: Reducing freight charges, by J. F. STROMBECK; *Bases for freight charges*, by C. L. LINGO; *Freight claims*, by W. A. TRIMPE; *Investigation of freight claims*, by G. H. HUNT; *Routing freight shipments*, by J. F. MORTON; *The bill of lading*, by F. A. LARISH; *The industrial traffic department*, by W. W. AGNEW. (Chicago: LaSalle Exten. Univ. 1915.)

Sixth annual report on the statistics of express companies in the United States for the year ended June 30, 1914. (Washington: Interstate Commerce Commission. 1915. Pp. 38.)

Telephone and telegraphs and municipal electric fire-alarm and police-patrol signaling systems, 1912. (Washington: Bureau of the Census. 1915. Pp. 208.)

Traffic efficiency docket no. 20. (Chicago: Am. Commerce Assoc. 1914. Pp. xviii, 220.)

Describes in brief terms the character and purpose of each of the 33 volumes constituting this library which is designed for the use of traffic men. Contains a full table of contents.

Twenty-sixth annual report on the statistics of railways in the United States, for the year ended June 30, 1913. (Washington: Government Printing Office. \$1.)

What the railway mail pay problem means to the railroads. A statement presented to the chief executives of the railroads by the Committee on Railway Mail Pay. (New York, 72 Church St. 1915. Pp. 67.)

Trade, Commerce, and Commercial Crises

Die Schweiz und die Europäische Handelspolitik. By PETER HEINRICH SCHMIDT. (Zürich: Art. Institut Orell Füssli. 1914. Pp. viii, 319. 5.60 M.)

The geographic location of Switzerland makes interesting a

study of her commercial policy, in which have been reflected to some degree the struggles for commercial self-expression and supremacy on the part of the leading nations of Europe. Recognizing this fact Dr. Schmidt in reviewing the Swiss tariff history discusses the industrial situation in the countries adjoining the Alpine republic; considers the writings of German, French, and other economists, and describes the drift of tariff legislation in each land.

Dr. Schmidt begins his study with the year 1798 when, free in name only, Helvetia was trying to break the ties binding her to Napoleonic France. He then gives an account of the various stages in the development of Swiss commerce, emphasizing the conflict of interests between the different sections of the country, the grouping of political parties, and the attempts of adjoining nations to benefit at the expense of their weak neighbour. The author traces carefully and with much sympathy the growth of protection in Switzerland. He points out the fact that free trade there became untenable when in the latter part of the nineteenth century European powers began to shut out Swiss products. Switzerland's well-being depended upon the exportation of large quantities of expensive articles; unless she could manage to keep foreign outlets open, her entire industrial fabric was in danger of crumbling to pieces burying under its ruins her very existence as an independent nation. It was then that, under the wise guidance of Mr. Cramer-Frey, Switzerland inaugurated the policy of retaliatory or war duties. By means of such duties and a judicious application of a "give and take" policy she succeeded in expanding her production, in safeguarding her commercial integrity, and in winning an enviable position among the trading nations of the world.

The bias of Dr. Schmidt is clearly defined. He firmly believes that fighting duties are mighty weapons in the hands of skillful negotiators, the success of the latter being measured by the importance of tariff reductions which they are able to win from foreigners while keeping intact as far as possible their own customs barriers. This bias colors the whole discussion of the subject and makes the book less scholarly than the previous publication of the same author on the "Swiss Industries in International Competition." It is a matter of regret that in this new volume Dr. Schmidt is revealed to us more as the secretary of the

industrial association of St. Gallen than as the teacher of economics in the commercial college of the same place. However, the book merits attention; it is of special interest at the present time when every particle of light which may be thrown upon the hidden causes of the present armed conflict in Europe is welcome.

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Selling Latin America. A Problem in International Salesmanship. By WILLIAM E. AUGHINBAUGH. (Boston: Small, Maynard and Company. 1915. Pp. vi, 408. \$2.)

Though not so divided, the book really consists of two parts. The first 19 chapters (pp. 1-211) contain brief historical, geographic, political, and economic descriptions of the countries of Latin America, similar to those furnished by *The Statesman's Year-Book* though not so extended and apparently not so accurate. The remaining 10 chapters (pp. 212-374) deal with trade methods, conditions, and possibilities in Latin America as a whole. The latter is the more interesting part of the book, giving more of the author's experience and furnishing some useful specific information, for example, about advertising.

There is a lack of precision in statement throughout. In the face of the actual facts and figures, such sentences as the following seem somewhat general: "Their [countries of Latin America] mines are the richest known to man. Some have been worked for thousands of years and are still productive" (p. 7), or "the petroleum industry [of Colombia] is rapidly assuming large proportions" (p. 121). That Uruguay's dollar (peso) is worth almost $3\frac{1}{2}$ cents more than that of the United States is naïvely commended as "reflecting favorably on the financial condition of the country" (p. 54). This extra value is simply due, of course, to the Uruguayan peso's having that much more gold (0.79+ grain) in it. That Uruguay is the only Latin-American country which has never debased its currency is not mentioned: a creditable record even though twice the government was prevented therefrom only by the strenuous opposition of the commercial population, largely foreign, of Montevideo, which has one third of the total population.

More serious, however, are such statements as "fully one-fourth

of the population of Chile are either German or of German descent" (p. 215). Wagemann, the best single authority on Chile, himself a German, after trebling the Chilean figures of 1907 to allow for the second and third generations, does not make the population of German extraction more than 1 per cent, or the entire population, including other Latin Americans, more than 5 per cent of the total population of Chile. Another statement "On hides, coffee, rubber, and sugar, which are the leading exports from these countries [Latin America] . . . every country imposes . . . heavy export charges" (p. 272) should not be ignored in view of the importance of mineral and cereal exports, and especially because of the fact that the most important country of all—Argentina—and a heavy exporter of hides, has levied no export duty since 1906, and also that Peru and Uruguay have so cancelled and reduced their export duties as to render them almost nominal. These inaccurate statements are representative of a number noted.

SELDEN O. MARTIN.

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NEW BOOKS

ANTONESCU, C. G. *Die rumänische Handelspolitik von 1875-1910.* (Leipzig: W. Schunke. 1915. 5 M.)

BOWLEY, A. L. *The effect of the war on the external trade of the United Kingdom. An analysis of the monthly statistics, 1906-1914.* (London: Cambridge Univ. Press. 1915. Pp. 64. 2s.)

CHAPMAN, S. J. *The war and the cotton trade.* (New York: Oxford Univ. Press. 1915. Pp. 28. 5c.)

CROWELL, J. F., editor. *Exporting; practical suggestions, how to begin, conduct, and hold foreign trade.* (New York: West Side Y. M. C. A. 1915. \$5.)

Contains "First steps in exporting" (pp. 16), by B. O. Hough; "Export opportunities in South and Central America" (pp. 14), by W. E. Peck; "Export opportunities in the Far East and Australasia" (pp. 14), by W. Ring; and "Need of training for foreign trade careers" (pp. 10), by G. Vintschger.

DAY, C. *A history of commerce.* New edition. (New York: Longmans. 1914. Pp. xliv, 640. \$2.)

DIETRICH, R. *Unser Handel mit unsren Feinden.* (Leipzig: Duncker & Humblot. 1915. 1.50 M.)

EBELING, H. *Wirtschaftliche Probleme bei dem deutsch-englischen Zuckerhandel.* Volkswirtschaftliche Abhandlungen der badischen Hochschulen, 29. (Karlsruhe: G. Braun. 1914. 2.40 M.)

LAMBERT, H. *The ethics of international trade.* (London: Oxford Univ. Press. 1915. Pp. 24. 2d.)

SCHROEDER, F. *Die gotischen Handelshallen in Belgien und Holland.* (Leipzig: Duncker & Humblot. 1915. 12 M.)

SHAW, A. W. *Some problems in market distribution.* (Cambridge: Harvard Univ. Press. 1915. Pp. 135. \$1.)

WACHA, D. E. *Four papers on commerce and statistics.* (Bombay: Chronicle Press. 1915. Pp. 93. 1s. 4d.)

Exporters' encyclopaedia, 1915. (New York: Exporters' Encyclopaedia Co. 1915. Pp. 1152. \$5.)

Handbooks on London trades: food, drink, and tobacco trades; gas and electricity supply trades. (London: Darling. 1915. 2d. each.)

Meat export of Australia. Report of the Australian Royal Commission. (London: Wyman. 1915. 6d.)

Paper and stationery trade of the world. Compiled from consular reports and supplemented by Grosvenor Dawe, commercial agent. Special consular reports, no. 73. (Washington: Dept. Commerce. 1915. Pp. 458.)

Seattle. One of the freest ports in the world. (Seattle: Chamber of Commerce. 1915. Pp. 32.)

Accounting, Business Methods, Investments, and the Exchanges

Installing Efficiency Methods. By C. E. KNOEPPEL. (New York: The Engineering Magazine. 1915. Pp. 258. \$3.00.)

Practically all of the literature on scientific management has consisted of argument, pro and con, or of statements of methods and results. There is a demand for books that will give industrial managers an idea of how to find the weak spots in their organizations and how to go about correcting them. The book under review is, then, a valuable addition to the literature on scientific management, for the author is himself an experienced efficiency engineer and he goes into the actual details of the introduction of efficient methods of management.

The first five chapters are devoted to an exposition of the mental attitudes toward their business of the directors and executives of an industrial plant which has been losing money, of the prospects, and of what had best be done. A supposed interview between these directors and an efficiency engineer answers

the question, put by so many executives, "How can a man who knows nothing about our business come in here and tell us anything about it?" Next is outlined the proposed organization, the relations to be developed between the management, the engineer, and the employees, and how to start the campaign.

The author advances a new type of organization, new in that it is a combination of the committee system, the functional system, and the line and staff system. The committees have no executive authority, and are hence only advisory to the executives. Certain common faults of committees the author does not touch upon—the lurking danger of divided responsibility or that one member of a committee often does all the work so that one man makes as good a committee as a number of men and that the committee of one is not unwieldy. The functional side of organization is not greatly developed by the author. The line and staff system is consistently adhered to, however, and its good points are brought out.

Time studies are discussed at some length in a very enlightening way; and on page 193 are given two empirical rules for setting the standard time on the basis of time study data. To this the reviewer would add that by picking out that time most often observed—which is, in effect, the mode—considerable light may be shed on the task of fixing the standard. Good judgment and experience in setting tasks are needed in addition to all time study data available.

The author's definition of the term "standardization" is a bit different, perhaps, from that ordinarily used; he uses it to include the sense of *improvement*, of conditions or operations, and puts stress on this sense. It might further be said that an essential point in the standardization of conditions is to insure that the conditions under which the time studies were made shall be reproduced every time the operation is performed. Otherwise the workman can not be held to standard performance.

Considerable space is devoted to a discussion of how to determine where to start—in what department and what to do first. This is a helpful discussion. The further suggestion might be made that whatever department ordinarily gives trouble by delaying the work should be selected to begin planning and scheduling. The result would be a distension of the neck of the bottle, so to speak, that would increase production promptly and serve as an admirable example.

The book closes with a description of how to tie together the different activities and make use of the different returns so as to ensure constant knowledge of conditions and continuing improvement. It serves to show how it can be done, but implies—and safely, in the reviewer's opinion—that the amateur will be a long time arriving at the finish. Any executive in any manufacturing plant will find this book helpful and valuable.

FREDERIC G. COBURN.

Public Utilities: Their Fair Present Value and Return. By HAMMOND V. HAYES. (New York: D. Van Nostrand Company. 1915. Pp. viii, 207. \$2.00.)

The author is a well-known engineer who has had an extensive experience with the various problems of public utility regulation. He was chief engineer of the American Telephone and Telegraph Company for several years before 1907, and since then has been a general consulting engineer. In spite of the fact that his experience has been chiefly in the employ of corporations, the present volume, as well as his earlier work on *Public Utilities*, gives a fair impartial treatment of the many controversial matters involved in regulation. The point of view is clearly that of the public welfare, with due regard to the rights of the companies. The book is in the main very clear, also fairly readable and suggestive. It appears a bit didactic, but it is not filled with mere forms and quotations, as is the case with two or three similar works written by engineers. It will serve especially well as an introduction to regulation for young engineers and students of economics and political science. This probably is its chief purpose.

The book consists of a preface, a table of contents, a rather inadequate index, and seven chapters of discussion. The following is a brief chapter summary. Chapter 1 outlines the general theory of regulation and sets forth the main points of controversy; chapter 2 explains what should be considered as fair present value under different circumstances; chapter 3 makes an analysis of what is a fair rate of return that a company is entitled to earn on the fair present value; chapters 4 and 5 take up the replacement cost and actual or final cost bases of valuation, showing in each case how the appraisal should be determined, and especially what items should be included and what excluded from the valuation; chapter 6 is devoted to a discussion of *going value* and chapter 7 to depreciation.

As to the valuation on which the company is entitled to earn a return, the author, of course, follows the general rule laid down by the courts, namely, the fair present value of the property. But he presents a pretty definite analysis of what is fair present value under different circumstances. In case of new undertakings, or when a property has been just newly appraised, he would take for the future the actual capital investment as shown by the accounts of the company. If a fair return and no more is allowed on this amount, he would consider that the investor would be treated justly, and there would be ample new capital available for needed development. In case of old properties newly brought under regulation, when the accounts do not reveal the actual investment, he would make a distinction between past profitable and unprofitable undertakings. For the first class, he would take the actual original cost of the useful property in service, less accrued depreciation, as the fair present value on which a return should be allowed. But for past unprofitable concerns, he would not deduct accrued depreciation, or he would take even replacement cost with or without accrued depreciation, as the proper basis of valuation. The method selected would depend upon the facts in each case. Justice, apparently, should not follow too rigid general rules. Actual cost new less accrued depreciation may be a fair valuation in one set of circumstances, but very unfair in another. But it should be observed that the author's statement of what is fair value in each class of cases is much more definite than the decisions of the courts and commissions seem to justify. And he does not always let the fact stand out sufficiently clear that the rules which he lays down are his own ideas of what ought to be, and not what the courts say constitutes justice. The courts have not gone farther than to say that the company has a right to a fair return on the value of its property employed for the public service.

A separate chapter is devoted to a discussion of *going value*. Under this term, the author would group such intangible capital costs as company organization, legal expenses, taxes and interest during construction, developmental expenses, also early operating deficits or deficiencies in fair return on investment. While this is a broader use of the term *going value* than is ordinarily employed, to the reviewer it seems to conform with desirable classification. The author, however, does not make clear

whether he would include also later deficiencies in return, or, if not, where the line should be drawn between those to be included in capital and those to be borne as losses by the investors. Also, while he holds that going value should be allowed, whatever basis of valuation be used, he does not make clear just how the amount should be determined in the case of an appraisal. As he presents the general idea, it appears to the reviewer as a category of actual cost or experience, to be shown only by the company's individual records. The thing would not be disclosed by an appraisal, for with like property the actual costs would differ greatly from one company to another. In the case of a new undertaking, the author's classification may be followed satisfactorily, but I do not see how it can be used if fair value can not be determined from the company's records, but must be established by the means of a physical valuation.

JOHN BAUER.

Cornell University.

Engineering Economics: First Principles. By JOHN CHARLES LOUNSBURY FISH. (New York: McGraw-Hill Book Company. 1915. Pp. xii, 217. \$2.00.)

The author's aim is well stated in his preface:

Every engineering structure, with few exceptions, is first suggested by economic requirements; and the design of every part, excepting few, and of the whole is finally judged from the economic standpoint. . . . It is therefore apparent that the so-called principles of design are subordinate to the principles which underlie economic judgment. . . . This important fact usually escapes the student of engineering because, while he may have seen hundreds of books on the principles of design and his time is largely employed in studying these principles and their application, he has seen not one book devoted to the principles which underlie economic judgment, and his books and his instructors merely mention these in passing. . . . The present work was undertaken with the belief that to the engineer a working knowledge of first principles is as essential in the economics as in the mechanics of structures; and that special study and drill in the application of principles is as advantageous in the one case as in the other. . . . The book is intended to meet the first needs of the student, and to render effective service in the office. It is hoped that it will facilitate the introduction of formal instruction in engineering economics in the engineering schools, and assist sound engineering practice.

The book is divided into five parts as follows: I, Introductory, pp. 1-4; II, Elements of the Problem of Economic Selection, pp.

5-108. This part contains chapters upon Interest (simple and compound), Sinking Funds, First Cost, Salvage Value, Elements of Yearly Cost of Service, and Estimating; III, Solution of the Problem of Economic Selection, pp. 109-148. The titles of the chapters are: Basis of Economic Comparison, Procedure for Economic Selection, Examples of Economic Selection; IV, Bibliography and Depreciation and Life Tables, pp. 149-175; V, Tables, including tables of formulas and tables of values, pp. 176-206. The index and contents are prepared in detail.

The usual mathematical formulas, with a few illustrative examples, are given for interest, present worth, discount, etc. Applications are then made in considerable detail to sinking funds with the usual mathematical developments in which simple algebra and the elements of logarithms are used. The chapter on First Cost contains, very naturally, no formulas, but consists of a discussion of the various elements which should be entered as first cost. The large number of items are covered briefly but clearly. The chapter on Salvage Value is divided between mathematical discussion, with illustrative examples, and general economic arguments without mathematical basis—a combination which seems particularly satisfactory in a difficult and debated, indeed debatable, subject.

For depreciation formulas are given the straight line formula, the sinking fund formula, the Matheson and the Gillette formulas, and the formula called "Equal Profit Ratios." The examples which are worked out by these different formulas show how very different the salvage value is when determined by the different assumptions which lead to the formulas. The following table summarizes the results in one example.

Formula	Salvage value at age five years	Ratio of yearly profit to investment, for the	
		Seller	Buyer
		<i>Per cent</i>	<i>Per cent</i>
Straight-line	\$5,000.00	5.95	56.9
Sinking-fund	5,606.83	7.05	48.2
Matheson	10.00	-3.08	39,976.9
Gillette	7,474.74	10.4	30.4
Equal profit ratios	10,835.17	15.61	15.61

It should be evident, therefore, that the question of selection among these formulas is of more vital importance than the use

of any one of them. Without intelligent selection, indeed, when the results of different calculations vary to the extent to which these vary, it may be somewhat doubted whether the calculations are of any practical value, and whether an intelligent engineer might not more simply, by the use of his judgment, arrive at a salvage value which would be just as reliable as any of these calculated values. Indeed, we might say that a totally inexperienced person, who is no engineer at all, would undoubtedly get a salvage value somewhere between the limits here obtained. This remark need not be interpreted as condemning any or all of the formulas, or as condemning the teaching of such formulas; for it is undoubtedly true that proper teaching along the lines of this chapter of Fish's text would aid materially in liberalizing the student's point of view as to the use of mathematics and economics in his every-day work.

Chapter 6 on the Elements of Yearly Cost of Service is again partly discussion and partly mathematical, and the following chapter on Estimating is largely a brief, but intelligent and intelligible, discussion of estimating.

The real essence of the work is, of course, contained in part III wherein the solution of the problem of economic selection is undertaken. The excellent feature of the teaching in this part is the stress laid upon the fact that, when all is said and done, the various calculations which may be made are to be used not blindly but merely as a help to the judgment of the engineer in making his decision between the economic values of two or more proposed structures. As this part of the work is to so great an extent illustrated by examples worked out for the benefit of the student, there should be no difficulty in making the subject interesting and effective with any class of engineers, and there is little chance to do more in a review than call attention to this fact.

One difficulty with the book from beginning to end is the complete lack of exercises for the students to do. The author says that "in connection with the lessons the student should be given many problems to solve in order that he may become self-reliant in the application of principles." It is my opinion that the hardest part of the teaching of the subject of this book would be, not to concoct thirty to fifty lectures upon it, but to bring together a well-selected list of exercises for the student to work; and I therefore do not hesitate in the slightest to say if such a list of

exercises were prepared, I should much rather use it than to use this book devoid of exercises as it is. It may well be that there would be considerable difficulty in selecting for the book a list of exercises of sufficiently general interest to be useful for teaching in different institutions and to different classes. Nevertheless, less than half of the work that the author should do is now done when he contents himself by remarking in the preface that the exercises should be furnished.

The last two parts contain, as has been stated, a bibliography and various tables. The bibliography is so long that it is difficult to judge how well selected it may be. The author has occasionally, through the text, referred to supplementary reading, and his bibliography may be intended to be used for special investigations in office work rather than for general additional instruction in the class room.

One subject of great economic importance, especially in regard to calculations relative to long enduring structures, has been touched too lightly by the author—the change of prices; in particular, the change in the general price level. In such a matter as salvage value or depreciation no discussion can be adequate which does not lay considerable stress upon future prices. Again, in economic matters the political element has to be taken into consideration, perhaps unfortunately. If a railroad engineer were to have calculated, a few years ago, on the question of steel versus wooden coaches, he might have decided that the wooden coach would be preferable; without, perhaps, taking into consideration the possibility that the Interstate Commerce Commission might, before the coach wore out, relegate it to the scrap heap by its imperial edict. And, in general, the question of choice between a more permanent and more costly structure on the one hand and a less permanent and less costly structure on the other has to be determined, to a very large extent, by one's judgment as to the *trend* of events, politically and socially as well as economically. From a strictly mathematical point of view it might be possible to allow for this possible judgment in some of the items used in the calculations previous to the exercise of the final decision, but wherever the future element should be entered, I believe that the importance of the dynamic in economics should be emphasized further in long distance estimates.

EDWIN BIDWELL WILSON.

Massachusetts Institute of Technology.

NEW BOOKS

ALLEN, I. R. *Personal efficiency, applied salesmanship, and sales administration.* (Chicago: LaSalle Exten. Univ. 1915. Pp. 315.)

ATWOOD, A. W. *McClure financial booklet.* (New York: McClure's Mag. 1915. Pp. 41.)

BABSON, R. W. *The future method of investing money; economic facts for corporations and investors.* (Boston: Babson Statistical Organization. 1915. Pp. 107. \$1.)

BARROLL, E. C. *Making money in the mail order mint.* (Boston: Rollins & Co. 1915. Pp. 48. \$1.)

BRAND, J. T. *The business of trading in stocks.* (New York: Mag. of Wall Street. 1915. Pp. 188. \$2.)

BYRAM, L. LER. *Turning real estate into cash.* (Houston, Tex.: Byram Co. 1915. \$1.)

CAMERON, A. G. *The Torrens system.* (Boston: Houghton Mifflin. 1915. \$1.)

DRURY, H. B. *Scientific management. A history and criticism.* Columbia University studies in history, economics and public law, vol. LXV, no. 2. (New York: Longmans. 1915. Pp. 222. \$1.75.)

To be reviewed.

FOOTE, J. R. *Modern collection methods.* (Chicago: Stewart Prtg. Co. 1915. Pp. 79. \$1.)

HICKERNELL, W. F. *Methods of business forecasting based on fundamental statistics.* (Chicago: LaSalle Exten. Univ. 1915. Pp. 26.)

HINRICHIS, J., compiler. *Export calculation tables for wheat, corn, rye, oats, barley, peas and cake.* Second edition, revised. (Baltimore: John Hinrichs Cable Code Co. 1915. Pp. 129. \$10.)

HOLBROOK, E., editor. *Cases on the law of bankruptcy, including the law of fraudulent conveyances.* (Chicago: Callaghan. 1915. Pp. 764. \$4.)

HORMELL, O. C. *Municipal accounting and reporting.* (Brunswick, Maine: Bowdoin College. 1915. Pp. 22.)

KIRKPATRICK, E. A. *The use of money; how to save and how to spend.* (Indianapolis: Bobbs-Merrill. 1915. Pp. 226.)

KLEIN, J. J. *Student's handbook of accounting. Solutions to questions in theory of accounts, practical accounting, and auditing contained in "Elements of accounting," for the use of teachers, students, and practising accountants.* (New York: Appleton. 1915. Pp. vi, 136. \$2.)

This is a text supplementary to the author's *Elements of Accounting*, presenting answers and solutions to the questions and problems appended to chapters in that book. The handbook may, however, be used independently, since each exercise includes a statement of

the problem or question. Solutions and answers are followed by references to chapters in *Elements of Accounting* and to numerous accounting publications.

To teachers of elementary accounting, especially to those using the author's text, and to self-instructed students, the book should prove useful in its presentation of the author's point of view. But it is suspected that to instructors aiming for student resourcefulness and independence of judgment in class work, the book may be found to work, in the hands of students, more harm than good.

Well-conceived as the plan of the book may be, its subject-matter is, in a measure, disappointing. It is doubtful, for example, whether the needs of students are met in the book's definition of reserves and reserve funds, of depreciation account and depreciation reserves, and in its treatment of donated stock. A serious error is noted, moreover, in the repeated confusion of accruals with deferred items: accrued interest receivable account, for instance, is erroneously included among examples of deferred assets, and several items of accrued expenses payable are given as examples of deferred liabilities. From this it is difficult to see how the student may derive the important principle which requires the equitable assignment of income and expense to periods of time.

The value of the book would have been greater, had it included more questions of accounting terminology and more problems in the application of principles, had its treatment of legal and financial considerations been restricted, and had its answers and solutions been supported by more exacting research.

W. R. GRAY.

KNOX, J. S. *Salesmanship and business efficiency*. (Cleveland, O.: Knox School. 1915. Pp. 295. \$1.75.)

LANGLEY. *The leap year daily balance interest tables*. (Boston: Bankers National Supply Co. 1915. \$6.50.)

LEWIS, C. J. *Farm-business arithmetic*. (Boston: Heath. 1915. Pp. xiii, 199. 48c.)

LYON, H. *Joint account letters and forms and some considerations of the law of joint account*. (Chicago: Investment Bankers Assoc. 1915. Pp. 30.)

Several forms that can be used in arranging the most common kinds of joint accounts are presented. Two agreements are given, one covering the formation of the account, the other covering the rules for conducting the account after it is formed. A further statement of the manner of using the forms, with some discussion of the law of joint account is added.

MOODY, J. *Moody's analyses of investments*. Pt. II. *Public utilities and industrials*. (New York: Moody's Investors Service. 1915. Pp. 108. \$15.)

MUENSTERBERG, H. *Business psychology*. (Chicago: LaSalle Exten. Univ. 1915. Pp. xi, 296.)

NOBLE, H. G. S. *The New York stock exchange in the crisis of 1913.* (Garden City, N. Y.: Country Life Press. 1915. Pp. 89.)

PARSONS, T. *Laws of business for all the states and territories of the Union and Dominion of Canada.* Revised to date with chapters on recent business legislation. (Hartford, Conn.: S. S. Scranton Co. 1915. Pp. 956. \$4.50.)

RINDSFOS, C. S. *Purchasing.* (New York: McGraw-Hill. 1915. Pp. x, 165. \$2.)

ROBINSON, M. H. *Organizing a business.* (Chicago: LaSalle Exten. Univ. 1915. Pp. 269.)

ROSE, R. *Letters that make money.* (Lansing, Mich.: Business Bldg. Corp. 1915. Pp. 63. 30c.)

SAUL, W. I. *Saul's interest tables.* (Chicago: Peckham Co. 1915. Pp. 12. 75c.)

SKIRMSHIRE, S. *Valuation; a textbook on valuation applied to the sale and purchase of real estate.* (London: Spon. 1915. Pp. 474. 10s. 6d.)

TATLOW, H. J. *Institute of railway accounting.* (Chicago: H. J. Tatlow. 1915. Pp. 86.)

THOMPSON, E. H. and DIXON, H. M. *Method of analyzing farm business.* (Washington: Dept. Agr. 1915. Pp. 26. 5c.)

TWYFORD, H. B. *Purchasing; its economic aspects and proper methods.* (New York: Van Nostrand. 1915. Pp. xvi, 236. \$3.)

WARREN, E. H. *Select cases and other authorities on the law of property.* (Cambridge, Mass.: E. H. Warren. 1915. Pp. xiv, 856. \$5.)

WEEKS, K. N. *Weeks' grain calculator.* (Seattle, Wash. 1915. Pp. 107. \$7.50.)

WILLISTON, S. *Commercial law.* (New York: Am. Inst. Bankers. 1915. Pp. 304. \$1.)

WILLISTON, S. *Negotiable instruments.* (New York: Am. Inst. Bankers. 1915. Pp. 296. \$2.)

Accountant's manual. Vol. XV, pt. II. *Questions set at the intermediate and final examinations of the Institute, May 1915, with answers.* (London: Gee. 1915. 1s. 6d.)

The instant answer; pre-eminently a book for computing salaries, rentals, interest, savings. (Portland, Or.: Instant Answer Sales Co. 1915. Pp. 264. \$2.60.)

Investment accounts. Reprinted from the *Accountant.* (London: Gee. 1915. Pp. 19. 1s. 6d.)

Navy Yard classification of accounts. (Washington: Navy Dept. 1915. Pp. 55.)

Selling the retailer. (Detroit, Mich.: Burroughs Adding Machine Co. 1915. Pp. 80.)

Sound investing. (New York: Moody's Mag. & Bk. Co. 1915. \$2.)

System of accounting for coöperative fruit associations. (Washington: Dept. Agr. 1915. Pp. 25. 5c.)

Trade marks, trade names and unfair competition in trade. (New York: D. C. Munn. 1915. Pp. 76.)

Uniform system of accounts for electric light and power utilities. (Lansing, Mich.: R. R. Commission. 1914. Pp. 76.)

Uniform system of accounts for electric railways. (Washington: Interstate Commerce Commission. 1914. Pp. 112.)

Capital and Capitalistic Organization

NEW BOOKS

BUTLER, R. C. *The Federal Trade Commission and the regulation of business under the Federal Trade Commission and Clayton laws.* (Chicago: Callaghan. 1915. Pp. 103. \$1.)

CROWELL, J. F. *Trusts and competition.* (Chicago: McClurg. 1915. Pp. 191. 50c.)

DARLING, J. R. *Darling on trusts.* (New York: Neale Pub. Co. 1915. Pp. 258. \$1.50.)

MARR, R. H. *A digest of the private corporation, negotiable paper and labor laws of Louisiana, through the session of 1914.* (New Orleans: F. F. Hansell & Bro. 1915. Pp. 474. \$5.)

PATTERSON, E. M. *A financial history of the Philadelphia Electric Company.* (Philadelphia: Director of Public Works. 1914. Pp. 163.)

Nearly \$1,000,000 in excess of a fair charge for service rendered has been paid yearly in order to maintain interest and dividend payments for a highly overcapitalized company.

General laws relating to the manufacture and sale of gas and electricity by persons and corporations both private and municipal. (Boston: Board of Gas and Electric Light Commissioners. 1914. Pp. 252.)

Poor's manual of public utilities, 1915. (New York: Poor's Manual Co. 1915. Pp. 2,280. \$7.50.)

Summary of Kansas corporation laws. (Topeka, Kans.: Secretary of State. 1915. Pp. 26.)

Labor and Labor Organizations

The Establishment of Minimum Rates in the Tailoring Industry under the Trade Boards Act of 1909. By R. H. TAWNEY. Studies in the Minimum Wage, No. 2. (London: G. Bell and Sons, Ltd.; New York: The Macmillan Company. 1915. Pp. xiii, 274. 3s. 6d. \$1.25.)

The first systematic study of the operation of minimum wages in Great Britain was made by Mr. Tawney, and published in 1914 under the title, *The Establishment of Minimum Rates in Chain-Making Industry under the Trade Boards Act of 1909*. The present volume is about three times as large as its predecessor, and is a more difficult, more suggestive, and more finished piece of work. The number of persons in the tailoring industry to whom the Trade Boards act has been applied is about 145,000. Although the tailoring trade board was organized in December, 1910, its wage determinations did not go into effect until February, 1913. The first rates were 6d. per hour for men and 3½d. per hour for women, but the latter was raised in July, 1914, to 3½d. Whether these rates constitute "living wages" in the sense of our American statutes is not certain. The British act does not require a trade board to fix the minimum precisely at the level of a decent livelihood.

The effects of the minimum wage in the tailoring industry during the first eighteen months of its operation may be thus briefly summarized: About one third of the women, and between one fifth and one fourth of the men affected, have obtained an increase in compensation. No evidence is available to show that the wages of the higher-paid workers have been reduced, or that the prices of the products have risen. Some of the less efficient employers have experienced a reduction in profits, and it is probable that a few of them will not be able to continue in business, but there has been no injury to the trade as a whole. No appreciable diminution has taken place in the volume of employment in the tailoring industry, nor even any serious displacement of the slower workers. Where wages are lowest, especially among the home workers, the law has been to a considerable extent evaded. The number of home workers has been slightly diminished, and this process is likely to discontinue gradually.

As an example of painstaking observation and moderate statement, the volume under review deserves a high place. So far as the reviewer is aware, it is the most suggestive and comprehensive account that has yet appeared of the minimum wage in operation. No person who has not carefully read it will henceforth be justified in making any general statement concerning the feasibility of the minimum wage policy. All the problems and difficulties that are likely to confront the operation of a legal minimum

wage are here exhibited in the concrete, and are discussed and evaluated in detail. As Mr. Tawney remarks, the extension, intricacy, and variety of the tailoring trade makes the attempt to set up minimum wages there almost a crucial test of the measure. It is a test whose results, so far as they have developed, ought to satisfy all reasonable friends of the minimum wage policy. Mr. Tawney presents abundant evidence to show that most of the stock objections to the measure have not been sustained. Trade union activity has been encouraged instead of discouraged; for the establishment of a minimum wage creates an incentive to organization, makes the workers conscious of their corporate interests, and puts into the hands of the poorest paid the means of enrolling in unions. Hence the membership of the tailoring unions has increased, and in several districts substantial advances of wages over the legal minimum have been secured. Very decidedly the minimum has not become the maximum. The advances in wages brought about by the law have not to any substantial degree caused higher prices or excessive "speeding up," but have been derived mainly from improved organization of production, as exemplified in greater efforts to train apprentices, in the instalment of better processes and equipment, in the redivision and regrouping of productive operations, and in greater attention to costs and cost accounting. Only a few of the workers, and these are among the slowest, have been displaced. In a word, the disadvantageous results of the law seem to be insignificant socially when compared with its solid benefits.

JOHN A. RYAN.

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NEW BOOKS

BOWLEY, A. L. *The war and employment.* (New York: Oxford Univ. Press. 1915. Pp. 21. 5c.)

HUNTER, R. *Labor in politics.* (Chicago: The Socialist Party. 1915. Pp. 202. 25 cents.)

The political policy of the American Federation of Labor is here subjected to searching criticism from the viewpoint of a socialist. The method made famous by Mr. Samuel Gompers, of rewarding "your friends" and punishing "your enemies" while avoiding the organization of a separate labor party, is weighed and found wanting. In short, Hunter declares that the present political methods of the federation "are a delusion and a snare." If collective action is desirable in connection with industry, surely, it is urged, united action is advantageous

in the political field. The backwardness of the United States in regard to labor legislation and social welfare measures is apparently ascribed solely to the political policy of Mr. Gompers and the American Federation of Labor. Other factors such as the influence of the frontier and of our eighteenth century constitution are not mentioned, and seemingly not considered of importance.

Mr. Hunter's thesis is that labor can succeed politically and industrially only when it asserts its independence on both the industrial and the political field—a thesis dear to the heart of the socialist. Many concrete illustrations are presented indicating that organized labor in the United States is subservient in politics to the manufacturers while at the same time it is vigorously struggling by means of organized action to obtain freedom from the dominance of the latter in the industrial field. A chapter is devoted to the anti-union activities of the American Association of Manufacturers and Martin Mulhall. Colorado is also held up as a fine example of the dismal failure of the political policy of the American Federation. In this state while a considerable number of "card men" were in the legislature and also in responsible administrative offices, occurred perhaps the most bitter struggle in the history of American labor and capital—a struggle which culminated in the Ludlow massacre and in the conviction of J. R. Lawson.

The greater strength and more distinguished leadership of organized labor in Europe are ascribed to independent political action. It is confidently asserted that, through labor parties, organized labor in Europe has won the right to use the boycott and the picket. "In Europe, injunctions are unknown in labor disputes, and so also are gunmen, thugs, and private armies in the employ of capitalists" (p. 188). The conclusion is reached that political subserviency to the men who furnish the sinews of war to the old parties, inevitably tends not only to sap the political strength of organized labor but also to undermine the unions in the industrial field.

FRANK T. CARLTON.

LONGDEN, F. *Apprenticeship in ironmoulding: a comparison of apprenticeship conditions in English and Belgian foundries.* (London: Hodgson Pratt Memorial. 1915. 6d.)

Fourth annual report on labour organization in Canada, for the calendar year 1914. (Ottawa: Dept. Labour. 1915. Pp. 238.)

Report of the departmental committee appointed to investigate the danger attendant on the use of paints containing lead in the painting of buildings. (London: Wyman. 1915. Pp. 184. 1s. 2d.)

War organisation in the distributing trades in Scotland. First report of the departmental committee. (London: Wyman: 1915. 2d.)

Women's employment. Interim report of the central committee. (London: Wyman. 1915. 5d.)

Money, Prices, Credit, and Banking

Indian Finance Currency and Banking. By S. V. DORAI SWAMI.
(Mylapore, Madras, India: S. V. Doraiswami. 1914. Pp. iv, 175, lxxxii. Price Rs. 2/8.)

This descriptive and critical discussion of the currency system of India is written by a native who undertakes to interpret the attitude of intelligent natives toward the complicated question of England's currency policy in India. The book also treats briefly certain related topics such as banking, proposals for a state bank, railway policy, and the public debt. Much of the material consists of articles that have previously appeared in various journals, and this fact probably explains the large amount of repetition. There is also considerable material that is relatively extraneous, as, for example, chapters on The Principles of Money and The Monetary Systems of Advanced Countries. Appendices which constitute about a third of the book relate chiefly to the recent report of the Royal Commission on Indian Finance Currency. The author is a believer in a strict gold standard with a gold currency for India, and has nothing but harsh language for the dilatory tactics of the British Treasury toward the carrying out of the recommendations of the Barbour Commission for the coinage of gold in India. The Indian gold-exchange standard is condemned in language both strong and picturesque. For example (p. 47), the author says: "During the past twenty-two years the Indian currency system has been the bleeding victim of the vivisector experiments of successive finance ministers and secretaries of state." In his opinion, the present system of "a managed currency" is not automatic in its operation, leads to an excessive coinage of rupees, imposes heavy financial burdens upon India, and is responsible for an increasing lack of confidence in the rupee on the part of the Indian people and a resulting growth in the practice of hoarding gold.

The great obstacle to the opening of the Indian mints to the coinage of gold and to the substitution of a gold standard with gold coin in circulation for the present gold-exchange standard, the author finds in the profits which London capitalists, many of whom are connected directly or indirectly with the Indian Office (pp. 34-36), realize from the present system—profits resulting from the large investments in sterling securities now made with the moneys of the gold standard reserve and the note reserve, profits from the deposit of Indian funds in London banks

either without interest or at absurdly low rates of interest, profits from the heavy purchases of silver for the coinage of Indian rupees, and profits from brokerage fees. The recent report of the Chamberlain Indian Currency Commission, the author believes, voices the sentiments of these London capitalists who are making large profits at the expense of India, and he characterizes the commission's report as on the whole "a whitewashing report" (p. 89) in which "the Commissioners have whitewashed the authorities with a big brush" (p. 171).

Mr. Doraiswami's book can hardly be called scientific. It is a strongly one-sided view of a clearly two-sided question, and the materials and authorities are selected to make a case. None the less, some of the criticisms contain substantial elements of truth. The financial patronage of the Secretary of State for India is tremendous, and it is unfortunate that so many members of the Indian Office Finance Committee have been connected with banking houses that have profited by the India Office's administration of the enormous funds under its control. No dishonesty has been proven, but the author rightly contends that "Caesar's wife should be above suspicion."

The ultimate solution of India's currency problems may be a gold standard with a large amount of gold in circulation, the system advocated by the author and by many other earnest students of Indian currency; but the attainment of that object under ordinary circumstances would of necessity have been very slow; under the extraordinary circumstances that have developed as the result of the European war, since the book was written, the day of its attainment would seem to be long postponed.

Meanwhile it should be remembered that India has never given the gold-exchange standard a fair trial. The Indian system as it has so far developed with its confusion of fiscal and monetary objects in the government's sale of exchange, with its mixing of the functions of its gold standard reserve and its paper money reserve, its variable and uncertain rates for the sale of Council bills and other government drafts, and its excessively large investment of reserve funds in interest-bearing securities under the pressure of fiscal needs, this system is far removed from the pure gold-exchange standard as advocated for India by A. M. Lindsay before the Barbour Commission, and as put into operation over a decade ago in the Philippine Islands. The pure

gold-exchange standard is almost as automatic in its functioning as is the gold standard with gold coinage; it is much less expensive, and, if properly managed, should be equally strong. On the other hand few of the valid criticisms urged by the author against the Indian system would be applicable.

There are numerous citations of authority in the book but almost no specific page references. There is no index and the proof-reading has been badly done. The book, however, contains suggestive material, and, above all, represents a point of view which no student of Indian currency problems can ignore.

E. W. KEMMERER.

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NEW BOOKS

BOWLEY, A. L. *Prices and earnings in time of war.* (New York: Oxford Univ. Press. 1915. Pp. 28. 5c.)

CLARK, W. E. *The cost of living.* (Chicago: McClurg. 1915. Pp. 168. 50c.)

To be reviewed.

FULTON, J. A. *Uncle Sam, banker, 1910-1940.* (McKeesport, Pa.: Hutchinson & Broadbent. 1915. Pp. 283. \$2.)

GERBER, G. H. *The high cost of living.* (New York: New York Bk. Co. 1915. Pp. 150. 60c.)

GHOSH, H. H. *Theory of co-operative credit. Including a brief sketch of the credit system.* Second edition. (Calcutta: S. C. Audy & Co.; London: Kegan Paul. 1915. Pp. xii, 212, xliv. 4s.)

HARDIN, H. *The banking law of the state of Missouri.* (Columbia, Mo.: E. W. Stephens Pub. Co. 1915.)

HARDWICKS, W. H. *The British currency decimalised and imperialised.* (London: Watts. 1915. 6d.)

HEPBURN, A. B. *A history of currency in the United States.* (New York: Macmillan. 1915. Pp. xv, 552. \$2.50.)

In the main a republication of *History of Coinage and Currency in the United States*, published in 1908. Additional chapters on the Federal Reserve act and the currency systems of other nations bring the volume down to date.

HERRICK, C. *Trust companies; their organization, growth, and management.* Second edition, revised and enlarged. (New York: Bankers Pub. Co. 1915. Pp. viii, 502. \$4.)

HOWE, R. H. *The evolution of banking; a study of the development of the credit system.* (Chicago: Kerr. 1915. Pp. 192. 50c.)

JOEHR, A. *Die schweizerischen Notenbanken 1826-1913.* (Zurich: Orell Füssli. 1915.)

KIES, W. S. *Branch banks in foreign countries.* (New York: West Side Y. M. C. A. 1915. Pp. 10.)

LUDEWIG, H. *Geldmarkt und Hypothekenbank-Obligationen.* (Munich: Duncker & Humblot. 1915. 4 M.)

MILLER, J. C. *The Kentucky negotiable instruments law.* (Louisville, Ky.: Baldwin Law Bk. Co. 1915. Pp. 260. \$3.50.)

MORGAN, D. T. *Land credits.* (New York: Thomas Y. Crowell Co. 1915. \$1.50.)

MORGAN, G. W. *Banking laws of New York; chapter 2 of consolidated laws, chapter 369, laws of 1914, with notes, annotations and references.* (New York: Banks Law Pub. Co. 1915. Pp. 531. \$3.50.)

POWELL, E. T. *The evolution of the money market, 1385-1915.* (London: Financial News. 1915. Pp. 782. 10s. 6d.)

SEITZ, H. K. *Schweiz. Anleihepolitik in Bund, Kantonen und Gemeinden.* (Zürich: Orell Füssli. 1915. Pp. 285.)

SKINNER, T. *The London banks and kindred companies and firms, 1915-1916.* (London: T. Skinner. 1915. 12s. 6d.)

STEVENS, F. B. *History of the Savings Bank Association of the State of New York, 1894-1914.* (Garden City, N. Y.: Doubleday, Page & Co. 1915. Pp. xxix, 708. \$5.)
Of interest as a source book relating to the experience of savings banks. The proceedings of twenty annual conventions held between 1894 and 1914 are summarized and an appendix contains the first report of Bank for Savings in the City of New York, in 1820.

WAGEL, S. R. *Chinese currency and banking.* (Shanghai: North China Daily News and Herald. 1915. Pp. 457.)

WOLFE, O. H. *Elementary banking.* (New York: Am. Inst. Bankers. 1915. Pp. 99. \$1.)

YEISER, J. O. *Automatic elastic currency.* (Omaha, Nebr.: Nat. Mag. Assoc. 1915. 25c.)

Causes of the present rise in the retail price of coal sold for domestic use. Report of departmental committee. (London: Wyman. 1915. 2d.)

The history of the Standard Bank of South Africa, 1862-1913. (Glasgow: R. Maclehose. 1914. Pp. xiii, 251.)

Lloyd's Bank, Limited, its history and progress. (London: King. 1914. Pp. 55.)

The ideal rupees and S. S. dollars exchange reckoner. (London: Gall & Inglis. 1915. 3s. 6d.)

Twenty-eighth annual convention Michigan Bankers' Association, June

23-27, 1914. (Detroit, Mich.: H. M. Brown, secretary. 1915. Pp. 172.)

Wholesale prices, Canada, 1914. Report by R. H. Coats. (Ottawa: Dept. Labour. 1915. Pp. xvii, 259.)

The sixth in the Canadian series. No change has been made in the list of articles nor in the method of interpreting and combining data.

Les affaires, la bourse, les banques et la guerre. (Paris: Berger-Levrault. 1915. 1.25 fr.)

Public Finance, Taxation, and Tariff

Some Aspects of the Tariff Question. By FRANK WILLIAM TAUSSIG. (Cambridge: Harvard University Press. 1915. Pp. x, 374. \$2.00.)

The appearance of a new book on the tariff by Professor Taussig is an event of importance, even though a good deal of its material has from time to time been published in the periodicals. The first 50 pages deal with principles—the relation of duties to prices and imports, the theory of protection to young industries, and the doctrine of comparative cost or advantage. The remaining 300 pages examine, with a wealth of detail, the working of these principles in the sugar, iron and steel, and textile industries of the United States.

Professor Taussig's method, long familiar to students in this field, is the method of refined common sense applied to complex problems—close reasoning from general principles, checked up by careful accumulation and interpretation of all relevant facts. His strictures on the pure fact method (pp. 155-58) are no less welcome than are his own carefully sifted data and his sober conclusions, in good part negative.

As for theory, the continuance of imports after the imposition of a duty shows "that the price of the commodity is higher within the country than without by the full amount of the duty" (p. 5). This fundamental theorem is carefully limited; yet even so Professor Taussig's discussion at times suggests a single domestic market and price, a condition that he would be the last to assert. Even more explicit recognition of geographical and other conditions as causing a variation or spread of domestic prices and costs alike would be welcome.

The existence of a wide range of costs among various establishments at one time is explicitly maintained for extractive in-

dustries (p. 11), but by implication is denied for manufactures (p. 10). Taking transportation into account, to go no further, the cost of many manufactures does vary widely in a country as large as ours, and it is hard to accept without qualification the dictum on page 10: "A duty on a manufactured product commonly is either so high as to keep out all imports, or so low as to admit all."

The doctrine of comparative advantage receives needed emphasis and restatement, and the distinguished author deserves the thanks of economic students for calling attention in so concrete a way to the dominance of this principle in international trade. He does not fall into the classical economist's error of interpreting the principle in terms of pain cost, but it must be confessed that his own statement leaves the matter a little vague: "A country under conditions of freedom tends to devote its labor and capital to those industries in which they work to the greatest effect" (p. 30). Not every reader is to be trusted to interpret such a statement in terms of profits.

The United States, in Professor Taussig's judgment, excels in industries dependent on rich natural resources, inventiveness in the making and skill in the using of machinery, mass production of homogeneous commodities, and, above all, skilled organization and management (p. 42). The discussion of this point is among the most interesting and suggestive parts of the book. Our country can maintain her present relative economic position, if she can maintain it at all, only by keeping ceaselessly ahead in the organization and technique of production, not by blocking the currents of international trade. It is a sound conclusion well put.

The conception of "dominant" industries as setting wage standards is helpful, and the elementary fact, often forgotten, that uniform burdens on all industries, such as high wages, do not disable them from international competition, is abundantly shown. Necessarily less satisfactory is the discussion of how far the actual cheapness of unskilled immigrant labor, for example, has served to give dominance to American industries utilizing it. The skill with which American business genius has made use of this as of dozens of other special advantages for this or that particular industry, however, is admirably brought out. The whole volume centers around the concept of comparative advantage.

In its emphasis on the human element in that principle, and in the application of it to the United States, Professor Taussig's work far surpasses anything heretofore published.

The specific conclusions of the book are designed to answer so far as may be the question how well protection to young industries has succeeded with us. The sugar duties have been enormously expensive; they have brought in large revenue, but have been paid increasingly to Hawaiian and other insular sugar-growers. Now that they are at last about to become somewhat less burdensome in proportion to the revenue they yield, we propose to abandon them. Our progress in iron and steel has been due to rich natural resources and especially to the qualities of our industrial leaders. Protection at best may claim a doubtful share. Clearly it had nothing to do with our copper industry, but it may possibly have achieved its end in tinplate. It can not be held greatly responsible for the growth of trusts in these industries. In textiles, our silk industry may fairly be credited to protection, perhaps. Our cotton manufacture apparently owes little to legislation, and wool manufacture is in doubtful condition, despite a half-century of unremitting high protection. The conclusions thus summarily stated are carefully put by Professor Taussig, and are supported by a mass of detailed evidence.

His conclusion is not unfavorable to protection so far as it is based on the young-industries argument, and he regards other economic claims as unwarranted. In his desire to be fair to the protectionists, he seems to me to yield too much. At most, his evidence shows that protection may sometimes be economically useful if intelligently or luckily applied. If it is applied, as it is in fact, on political and not on economic grounds, if a generation is required to determine its economic results (p. 23), and if a mistaken application inevitably means a demand for more protection, at increasing cost to the community, does not common sense, on a balance of probabilities, dictate the rejection of protection as an economic measure? Of course the military or political argument is not thereby directly affected. Does not the saner analysis of our day after all, however, lead the economist to pretty much the same conclusion as that of his classical forbears? And can he not state his conclusion with equal clearness?

Like the author's *Tariff History*, the present volume will undoubtedly become a standard work in its field. Its conservative

theorizing, with due emphasis on essentials, its store of detailed and sifted information, its eminent fairness, its caution in conclusion and generalization—all combine to make it a model of what such a work ought to be, at once a thoughtful presentation of an important if hackneyed problem, and a substantial contribution to the economic history of our country.

H. R. MUSSEY.

Columbia University.

The Valuation of Urban Realty for Purposes of Taxation.

With Certain Sections Especially Applicable to Wisconsin.

By WILFORD ISBELL KING. University of Wisconsin Economic and Political Science Series, Vol. VIII, No. 2. (Madison: Bulletin of the University of Wisconsin. 1914. Pp. 133-246. 25 cents.)

Mr. King has performed a service to all assessors by this study of the principles which should govern the assessment of urban real estate, and by explaining practical methods of standardizing assessments to the end that all owners of real estate shall pay their share of taxes in proportion to the value of their property.

First there is a discussion of the value of land, what is meant by the term, and the various evidences of value which may be used to determine value. The practical difficulties arising from the fluctuating prices influenced by various conditions are then pointed out and recommendation is made of remedies for the unequal assessments which are too common in every state. The practical remedies recommended by Mr. King are four.

1. Assessment of all property at full value.
2. Assessment by trained assessors holding office for long terms.
3. Complete publicity.
4. A definite system of valuation.

To obtain assessment of real estate at full value, supervision by the state is necessary. In no case should state taxes be wholly dependent upon the valuation of local assessors. Trained assessors can be obtained only by appointment, not by election; and no person who has not first passed a rigid examination should be eligible for appointment. Permanent tenure of office, subject to removal for cause, is a necessary condition. These statements must commend themselves to all who are familiar with actual conditions.

As a necessary mode of obtaining equality and publicity, Mr. King recommends what is commonly known as the unit system, which is employed wherever assessments worthy of the name are made. He recommends that the ordinary unit should be a strip of land 1 foot wide by 100 feet deep, although, being a practical man, he says that if in any section lots are of a uniform depth, greater or less than 100 feet, this uniform depth may be taken as the unit. Generally the uniform unit of 100 feet in depth is regarded as the best. Under the unit system, the front foot value is determined from all of the evidences obtainable, and is set down on maps of convenient size and shape so that the unit values may be displayed on one sheet for considerable areas. The whole city is treated in like fashion.

In discussing the value of buildings, Mr. King points out that this value can not exceed the cost of reproduction and is not governed by original cost, which might be much greater. In discussing depreciation and obsolescence (the latter being very important in rapidly changing American cities), he says that the value of land and building together, when the building has any value, may be determined by capitalizing the net rent at about the rate on mortgage loans on real estate in the neighborhood. In his treatment of the relation of the depth of a lot to its value, Mr. King gives the rules in use in Cleveland, Chicago, New York, Milwaukee, and London, also the Davies rule somewhat in use in New York for determining the value of a lot of greater or less depth than 100 feet. He points out clearly that these rules are not of universal application and must often be modified for retail districts, wholesale districts, and residential districts; in some cities the curve of value in use in residential districts is quite different from that in use in retail business districts. He shows how a curve of value may be plotted when a reasonable number of sales of lots of different depth have been made, and the considerations are known.

In many cities alleys are common. The various theories concerning the value to be ascribed to alley influences are considered, and Mr. King recommends that the usual mode of computing the value should be by adding a percentage to the front foot value, because of the existence of the alley at the rear of the lot. He shows that there is a serious objection to simply adding part or all of the alley area to the area of the lot. An alley

situated 30 feet from the street and parallel to it would add less to the value of the lot than would an alley 100 feet from the street; although if the area of the lot were computed on the basis of any short-lot rule, it would appear to have a greater value with an alley near the street than with one further from it.

The enhancement of the value of a lot by reason of its position at the corner of intersecting streets is treated in the light of the studies made by the late W. A. Somers, Messrs. Lindsay and Bernard, Mr. Pleydell, and others. In the case of the intersection of retail streets, Mr. King agrees that the relative value of the intersecting streets must have an important bearing upon the percentage of enhancement due to corner position. He presents an ingenious diagram of his own showing the reason for this enhancement of value, and gives rules for the construction of curves of value where there is adequate information concerning rentals and sales.

There is a small part of Mr. King's book that, to the average reader, is rather difficult of comprehension because of the use of mathematical terms with which many persons are unfamiliar. Some of the computations relating to depreciation are, perhaps, too abstruse and academic. But this statement applies to very little of the book. It might well be put into the hands of every man concerned with the assessment of real estate.

LAWSON PURDY.

NEW BOOKS

BEHRENS, L. *Die Entwicklung der direkten Steuern in Hamburg und die Errichtung der Steuerdeputation am 9.3.1915.* (Hamburg: Boysen. 1915. Pp. iv, 78. 1 M.)

COLETTE, P. M. *Impôts sur les valeurs mobilières.* (Paris: Tenin. 1915. 1 fr.)

D'EICHTHAL, E. *Des évaluations du coût de la guerre.* (Paris: Alcan. 1915. 0.60 fr.)

FIGARD, J. *Lendemains financiers d'une guerre.* (Paris: Alcan. 1915. 3 fr.)

FITZPATRICK, J. T. *Tax law of the state of New York.* (New York: Baker, Voorhis. 1915. Pp. 247. \$1.)

FREWEN, M. *Memorandum on the finance of the Great War.* (London: Spottiswoode. 1915. 6d.)

KAUFMANN, W. *Die Einwirkung des Krieges auf die direkten Steuern im Königreich Sachsen.* (Leipzig: Rossberg'sche Verlagsbuch... 1915. 1.20 M.)

SIEGHART, R. *Zolltrennung und Zolleinheit. Die Geschichte der österreichisch-ungarischen Zwischenzoll-Linie.* (Vienna: Manz. 1915. 12.80 M.)

VON STENGEL, F. *Zur Frage der wirtschaftlichen und zollpolitischen Einigung von Deutschland und Oesterreich-Ungarn.* (Munich: G. D. W. Callwey. 1915. 0.75 M.)

WENHAM, M. A. *Super-tax. With special reference to the finance act, 1914.* (London: Gee. 1915. Pp. 99. 5s.)

WHITNEY, F. N. *Centralized assessment of public utilities in New York.* (New York. 1915. Pp. 12.)

The author is tax attorney of the Western Union Telegraph Company and prepared this address for the fifth state conference on taxation, held in Albany, January 15, 1915. It comprises a convenient summary of the system of taxation of public service corporations in New York.

WOLTERS, F. *Geschichte der brandenburgischen Finanzen in der Zeit von 1640-1697.* (Munich: Duncker & Humblot. 1915. Pp. 600. 20 M.)

WOLF, J. *Ein deutsch-österreichisch-ungarischer Zollverband.* (Leipzig: A. Deichert. 1915. Pp. 25. 1 M.)

Population and Migration

Negroes in the United States. Department of Commerce, Bureau of the Census, Bulletin 129. (Washington. 1915. Pp. 207.)

A more extended special report on negroes is to be issued sometime in the future. This bulletin, which is only a forerunner, is confined almost wholly to statistics of population, agriculture, mortality, and religious bodies, of which only the material on agriculture and mortality is essentially new. The population statistics have been reproduced from the federal census of 1910 and those of religious bodies from a special report of 1906. All other statistics not previously published are for the year 1910.

Significant of the economic and social status of the negroes generally is the large percentage of negroes as compared with whites gainfully employed. Taking the country as a whole, 71 per cent of all negroes ten years of age and over were gainfully employed in 1910; the percentages for the same age period by sex were 87.4 for males and 54.7 for females. The corresponding percentages for whites by sex were 77.9 and 19.2 respectively. In the Southern States the percentages of negroes gainfully employed run higher, ranging from 81.6 in Delaware to 90.6

in Alabama and Mississippi for the males and from 30.5 in West Virginia to 68.5 in Mississippi for the females. If taken at their face value these statistics are of considerable interest as a comment by inference upon the popular belief that the negro doesn't pay his own way. Statistics regarding relative wage rates for whites and negroes would have been pertinent; and also some definite information regarding comparative efficiency of the two races in the same occupations is needed.

The occupational status of the negro can in part be inferred from the statistics of the principal occupations. Fifty-six per cent of all negro males ten years of age or over gainfully employed are in agriculture, considerably more than half of this number being farm laborers. The proportion of skilled workmen is very low. More significant still is the high percentage (48.1) of the females of the same age group ranked as farm laborers. Only 3.9 per cent of the females are ranked as farmers as contrasted with 25.1 per cent of the males so ranked. Female laundresses (not in laundries) constitute 17.9 per cent of the females gainfully employed and cooks 10.2 per cent. Thus 80.1 per cent of the females of ten years or over gainfully employed fall within these four occupations, showing, as one might expect, much less diversity of occupation for the females than for the males.

Only in regard to agriculture does the report give statistics for comparison with the whites in this connection. Here we find that out of a total population of which negroes comprise 10.7 per cent they constitute 14 per cent of the total number of farm operatives. It may be inferred that this excessive percentage is in part to be accounted for by the higher percentage of negro women and children working in the fields, but statistical data for testing this assumption are lacking in the report. Apparently, negroes are engaging more extensively in agriculture than previously, for the increase among negroes in this occupation from 1900 to 1910 was 19.6 per cent, while that for the whites was only 9.5 per cent. Of course, the high percentage of negroes in the rural South accounts very largely for this discrepancy of percentages. In fact, the negro is decidedly more rural than any other class of our population. Of the negroes 72.6 per cent live in rural communities as compared with 55.8 per cent for native-born whites, 63.9 per cent for native-born whites of native

parents, and 27.8 per cent for foreign-born whites. The percentage of rural inhabitants among negroes is nearly three times as great as among foreign-born whites. But this comparison can not be particularly illuminating in its wider economic significance unless we can know the relative skill of the two classes compared.

The average size of the farms operated by whites is slightly more than three times as large as those operated by negroes, these proportions holding pretty generally for both North and South, though the average size of farms in the South is slightly smaller for both classes. Farms operated by whites, taking the country as a whole, have nearly three times as much improved land as those operated by negroes, but in the South this proportion is scarcely two to one in favor of the white operators. Farm equipment is much more plentiful for whites than for negroes. Acreage values in the South are ranked as \$26.25 and \$25.19 respectively for negroes and whites, though the comparison is decidedly the other way about in the rest of the country. Of farm operators in the South, 24 per cent of the negroes are owners as against 60.1 per cent of the whites. Here the large number of negro women and children classed as farm operatives must be taken into consideration for corrective purposes. The largest increase in the operation of farms by negroes during the last decade has been in Georgia, Arkansas, and Oklahoma.

The abnormally large death-rate of the negroes tends to decrease. This decrease is most noticeable where ownership of homes has increased most considerably. There has been a rapid increase of home ownership among negroes, especially in those Southern cities which have recently had marked expansion of population. The lowest sectional increase in owned farm homes for the last decade was in the West South Central division of states, though the most considerable increase in ownership of other homes was found here also. These facts should have some interest in connection with the recent investigations of tenancy by the federal Industrial Relations Commission in this section.

While Bulletin 129 is decidedly incomplete as to both topics and data, it is distinctly valuable as a labor saver for the student of the negro problem. The fuller report to be issued later promises to supply many of the omissions, particularly such as

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relate to the dependent, defective, and delinquent classes, and agriculture. However, it is not likely materially to decrease the number of cross-references to other special or general census reports which the investigator will have to make for the sake of amending his data. It may not be out of place to remark that a similar special census report on immigrants would be of great value at the present time.

L. L. BERNARD.

University of Missouri.

Population: A Study in Malthusianism. By WARREN S. THOMPSON. Columbia University Studies in History, Economics and Public Law, Vol. LXIII, No. 3. (New York: Longmans, Green and Company. 1915. Pp. 216. \$1.75.)

The century-old controversy over the theories of the Rev. Thomas Malthus is revived once more by Dr. Thompson in a dress of refreshing originality. The old method of deductive reasoning is abandoned, the theory is cleared of non-essentials, and the main thesis of the English economist is amply supported by strong statistical evidence.

The Malthusian position is thus stated by Dr. Thompson: "Although at any normal time there is food enough to keep alive all members of the population, yet it is only actual pressure upon subsistence, or fear of pressure, which keeps population from multiplying more rapidly than it actually does." This statement does not agree with the usual interpretation of the doctrine, which interpretation is based on the first edition of the *Essay*. In the sixth edition, however, Malthus made his statement decidedly less pessimistic and it is only fair to judge a writer by his most mature thought. Perhaps if Malthus were writing in more modern economic terminology he would say that a downward pressure upon the standard of living operates as a check upon the increase of population.

In presenting his statistical evidence, the author first shows by index numbers of wages and prices that real wages have fallen in the past twenty five years, not only in the United States but in all countries in which the figures are available. Statistics are then presented in regard to the production of food-stuff of all kinds, proving that the rate of increase has kept pace with the increase of population chiefly by the bringing

of new lands under cultivation rather than by increasing the production per acre. He also shows that the possibilities of increasing the area of cultivation are not so great as generally supposed. The fact that in the United States the area of land in farms increased only 4.8 per cent between 1900 and 1910 is evidence that there is comparatively little unused land which is not beyond the present margin of profitable cultivation.

In measuring the movement of population the author states that the unprecedented increase of the past fifty years was made possible by the rapid development of means of transportation, labor-saving farm machinery, and the extension of the area of cultivation. The rapid development of these features can not be repeated in the future. Evidence is then presented to show that the law of diminishing returns is operating powerfully in agriculture and that the assumed increasing returns of industry are largely fictitious when all the social costs are taken into account.

Dr. Thompson's conclusions are, then: (1) That Malthus was essentially correct in his statement of the law of population. (2) Malthus was also correct when he said that much misery and suffering is caused by the overcrowding of the population. The greater death-rate of the lower classes shows that they suffer because they are unable to provide themselves with the essentials of life. (3) Population can not continue to increase at its present rate without a simplification of the standard of living.

G. B. L. ARNER.

The Medico-Actuarial Mortality Investigation. Five volumes. I. Height and Weight. Rate of Mortality to be Used in Standard or Expected Deaths. II. Influence of Build on Mortality. Causes of Death. Mortality among Women. Mortality among North American Indians, Negroes, Chinese and Japanese in North America. III. Effects of Occupation on Mortality. IV. Mortality among Insured Lives, Showing Medical Impairment. Defects in Physical Condition, in Personal History or Family History. V. Defects in Physical Condition in Personal or Family History. Mortality in Southern States. Mortality under Joint Lives. (New York: Association of Life Insurance Medical Directors and Actuarial Society of America. 1915. Pp. 131; 159; 219; 211; 185. Vol. I, \$2.50; vols. II-V, \$10 each.)

The report under review represents the most accurate and scientific investigation of mortality yet made in this country and, in fact, rivals anything which has ever been done in those European countries which have a reputation for accurate and complete vital statistics. The report was authorized in 1909 by the Actuarial Society of America and by the Association of Life Insurance Medical Directors. It is published in five volumes containing over 300 tables with their explanation. The investigation covered fully 3,000,000 policies and was based upon the experience of life insurance companies of the United States and Canada. It included among other groups, 68 groups of occupations involving hazards, 76 groups of medical impairments, 4 groups of women, and 2 groups of negroes.

Particular attention was given to overweight, underweight, overheight, and underheight in their relation to longevity. The investigation did not go back of 1885 and it is interesting to note that the 43 companies coöperating, had at that date 97 per cent of the total amount of old line insurance in force in the United States and Canada. The need for such information in the development of compensation insurance makes the results of this investigation especially valuable.

Life insurance vital statistics carry with them a much smaller element of error than do most government statistics of this character and hence the more dependable are the results. But the committee was not appointed to draw up a new mortality table to supersede the American and Actuaries tables now in general use and the warning is given that the results of the investigation should not be used for any of the ordinary financial calculations of insurance companies, as, for example, the calculation of premiums or reserves. The specified purpose was to investigate physical, occupational, and residential hazards, hazards arising from family history, and the effect of "build" on longevity.

It is well known that the American Table shows a higher death-rate than that actually experienced by life insurance companies, but, as the committee well remarks, "in participating policies it is the actual death-rate which determines the cost of insurance to policy holders." In general this is true both of participating and non-participating policies, but there has been considerable discussion concerning the use of this redundant table

both by participating and non-participating companies. If life insurance is to become more strictly mutual in its actual operation, and if supervision is to be more intelligently directed for the benefit of the insured, and if there is to be further improvement in the mortality experience, then a demand may very properly arise for charges more nearly based upon an actual experience of insured lives.

Only a few of the many valuable and interesting results of the investigation can be indicated.

It was found that the average height of the males investigated was 5 ft., 8½ inches while that of the females was 5 ft., 4¼ in.

There was found to be decided improvement in the life of the insured. The rate of mortality was very low at age of entry, and the ultimate mortality for the eleventh and succeeding policy years was less than 60 per cent of the American Table for the attained ages below 40. This is to be explained by the improvement in sanitary conditions, the advance in medical knowledge, and the more intelligent methods of medical selections. Regarding overweights and underweights it was found that the aggregate mortality was about 10 per cent in excess of the expected. The mortality increase for overweights is greater than that for underweights as compared with average weights, although the mortality increase of underweights at the early ages is very marked. Ninety-four causes of death at different ages were tabulated. Between the ages 15-29 and 30-44 tuberculosis ranked first and typhoid fever second, while above these ages apoplexy and organic disease of the heart ranked first.

The mortality among the married women investigated was about 50 per cent higher than in the case of spinsters. Negroes were investigated under the two heads "ministers, teachers, professional men" and "all other colored." The ratio of the actual to the expected mortality among the first class was 137 per cent and among the second class 147 per cent.

The effect upon mortality of the use of intoxicants was carefully investigated and the results supply excellent argument for those now engaged in the prohibition movement.

The mortality in 199 classes of occupations was investigated. Of special interest to the insurance fraternity was the investigation of the mortality experience under different classes of policies—ordinary life, limited payment, and endowment. A careful

examination was made of the mortality effect of tuberculosis with different classes, as, for example, where one parent has tuberculosis and where a brother or sister had the disease. The incidence of mortality from tuberculosis was shown to be similar in the case of the insured having either a parent or a brother or sister afflicted with the disease, thus adding to the testimony that tuberculosis is not inherited. A higher death-rate was found for underweights from tuberculosis.

For many years it has been a common belief that the mortality in the southern states is higher than in the northern states. The mortality experience of 14 companies in Alabama, Arkansas, Florida, Georgia, Texas, Louisiana, and Mississippi—states in which malarial fever has been prevalent—was investigated. With the exception of Texas the actual mortality varied from the expected from 131 per cent to 178 per cent. However, there has been substantial improvement in the mortality experience in these states. The mortality from typhoid fever has been about one and one half times the standard and from malaria about seven times the standard.

The detailed work of the investigation was done by a force of ten to fifteen girls, with the latest mechanical devices; and, considering the extent of the investigation, its small cost and prompt completion, an interesting comparison might be made between private and public statistical work. This investigation sets a high mark for work of this character and its results should be carefully studied by those interested in any phase of vital statistics.

W. F. GEPHART.

Washington University.

NEW BOOKS

FONKALSRUD, A. O. *The Scandinavian-American.* (Minneapolis: K. C. Holter. 1915. Pp. 167. 75c.)

HERSCH, L. *La mortalité chez les neutres en temps de guerre.* (Paris: Giard & Brière. 1915. Pp. 36. 1 fr.)

MILLIS, H. A. *The Japanese problem in the United States.* (New York: Macmillan. 1915. Pp. xxi, 334. \$1.50.)

This book is published for the Commission on Relations with Japan, under the authority of the Federal Council of the Churches of Christ in America. The author was formerly agent of the Immigration Commission, in charge of the investigations in the Rocky Mountain and Pacific Coast states. The report of the commission is

drawn on liberally, and the value of the present work consists largely in putting in more available form the material contained in that report, bringing the subject up to date, and introducing the author's opinions and conclusions.

The bulk of the book is taken up with descriptions and analyses of the life of the Japanese in the various occupations and industries which they have entered on the Pacific coast. It is shown that they have made the greatest impression in agriculture, but that they have also entered other industries in sufficient numbers to have aroused the characteristic anti-Oriental feeling. In agriculture they tend to concentrate on intensive cultivation. When the Japanese first appeared in considerable numbers, they displayed a marked tendency to underbid other laborers in the occupations they entered. This fact, combined with their efficiency and the ease with which they could be secured through contractors, won them favor in the eyes of employers, but aroused antagonism among other workers. These distinctions in wages have now become almost obliterated. In agriculture, they pay high rentals, and have helped to raise land values. The chief objection to them as farmers is the low standard of living they are willing to accept, particularly for women who work in the fields.

The closing chapters of the book deal with the history and motives of the Alien Land law, the characteristics of the Japanese, the problem of assimilation, and various suggestions for improving the situation. It is of significance that the author, as a result of his study, takes his place with the large number of close students of immigration who favor restriction. The plan he favors is a modification of that proposed by Professor Gulick. Throughout the book it is demonstrated that the limitation of Japanese immigration by an international agreement has been a most desirable thing for this country, and the absence of any acute problem and the disappearance of earlier undesirable conditions are due to the very small number of recent immigrants.

The book reveals careful, painstaking, and conscientious investigation, and forms a valuable addition to the concrete studies of alien races in the United States.

HENRY PRATT FAIRCHILD.

REELY, M. K. *Selected articles on immigration.* (White Plains, N. Y.: Wilson. 1915. Pp. 314. \$1.)

The blind population of the United States, 1910. Bureau of the Census, Bull. 130. (Washington: Bureau of the Census. 1915. Pp. 52.)

India's appeal to Canada or an account of Hindu immigration to the Dominion. By a Hindu-Canadian. (Victoria, B.C.: India Association, 630 Speed Ave. 1915. 5c.)

Indian population in the United States and Alaska, 1910. (Washington: Bureau of the Census. 1915. Pp. 285.)

Social Problems and Reforms

The Social Problem: A Constructive Analysis. By CHARLES A. ELLWOOD. (New York: The Macmillan Company. 1915. Pp. xii, 255. \$1.25.)

Looking upon Western civilization as a whole, as it manifests itself in the second decade of the twentieth century, Professor Ellwood finds many causes of dissatisfaction and apprehension. In its very foundations there exists a disquieting degree of rottenness, attributable to the "egoistic, socially-negative doctrines" which marked the nineteenth century. There is danger that civilization itself, at best a fragile creation, will be disrupted, and mankind will be plunged once more into barbarism. This situation, however, does not call for a pessimistic attitude. It is a mistake to assume that the course of social evolution is predetermined, and that man has no control of his own destiny. It is the function of social science to show how social forces may be manipulated by human agencies so as to bring about a more desirable state of things than could result from the operation of blind chance. This is the social problem, the "problem of human living together," and it is the greatest of all the problems which confront mankind, because it includes all of the so-called "social problems," each of which is integrally related to it, and can not be adequately dealt with as an isolated phenomenon.

Civilization being at bottom a matter of ideal values, it is most important that the ideas and ideals which characterize any society should be both right and harmonious. Much of the present disorder is due to a lack of uniformity as to social values, and to a tenacious adherence to certain socially-negative values, such as materialism, individualism, and hyper-nationalism, which have gained a firm hold on the Western mind. If society is to progress, and progress by a better means than revolution, its members must come to an agreement as to the value of ideas and ideals. Those which are socially advantageous must be selected for approval and perpetuation; those which are destructive must be marked out for condemnation and elimination. To do this successfully requires an analysis of the various elements of our present civilization.

Among the historical elements, the greatest religious contribution is found to have come from the Hebrews. To the Greeks we owe our artistic and intellectual traditions, and to the Romans our traditions in government and law. The Germans have given

us our tradition of individual liberty. Being thus a composite, or mosaic, put together from several different sources, the contributions of which could not be perfectly blended, our civilization is of necessity full of inconsistencies. The social confusion which results from these tendencies is especially marked in America. The physical elements involved in the social problem have called forth the new science of eugenics, which offers great promise. Among the economic elements are to be distinguished city life and capitalism, each of which has its dangerous tendencies, particularly the latter through its encouragement of materialism in rich and poor alike. Capitalism, as it now exists, is to be thoroughly condemned. Some form of socialism, in the broad sense, must take its place. Among the spiritual and ideal elements there is so much of confusion, and so many socially-negative doctrines, that a revaluation in nearly every department of life is called for, if civilization is to persist and society progress.

Of the social problem thus presented, Professor Ellwood finds no permanent solution possible. Principles must be discovered which will serve as a constant guide to conduct. The solution can not be by one-sided devices, by external machinery of social organization, nor by revolution. The salutary changes must arise within the human character. The method of securing them is through the education of the young into a proper understanding of, and attitude toward, their social environment. To do this, trained social leaders are necessary, and the development of such leaders is the great need of the day.

The foregoing summary should give an idea of the value of the book, and of its contribution to social science. It remains only to remark that it is well written, interesting, and convincing. The breadth of vision and common-sense attitude which mark all of Professor Ellwood's writing save it from the impracticability and abstruseness which the subject might easily have involved.

HENRY PRATT FAIRCHILD.

Yale University.

The Normal Life. By EDWARD T. DEVINE. (New York: Survey
Associates, Inc. 1915. Pp. 233. \$1.00.)

This book is admirably conceived, the author having chosen to disregard the conventional policy of social workers and, instead of discussing existing evils, to present the "positive rather than the negative aspect of life, normal development rather than patho-

logical aberration, healthy participation in organized human activities rather than waste, pauperism, criminality and degeneracy." We need books that present standards of normal life, but the danger of descending into a discussion of abnormal conditions is ever present and escape is difficult. This book occasionally deviates from its apparent purpose, the best illustration being the 12 pages of discussion allowed the "dependent child" who is surely a considerable departure from the normal individual.

The author classifies the life of man into seven divisions and discusses each separately, although he groups the first two, "before birth" and "infancy," together with the topic "parentage" under the general head of "infancy." He urges the need of a good heredity, of proper prenatal care, of a competent home, and of a good mother. An interesting departure from conventional thought appears in the statement that the repeal of bastard laws is desirable, after the substitution of other processes to secure paternal responsibility for the support of an illegitimate child. The social worker would be greatly relieved if a feasible plan for solving this problem had also been suggested.

Childhood is regarded as the special province of education. Mind and body must be fitted to satisfy the wants of man. Those habits and instincts should be encouraged which economize power and promote social welfare. Part of this work, however, must be done in the fourth stage—youth. Child labor laws are needed, vocational training must be given, health conserved, and provision be made for recreation. Mental defect and juvenile delinquency enter at this point for a brief discussion.

At maturity the individual becomes a producer and contributor to the life of the community. Work and home become the absorbing interests. To facilitate the work of social reconstruction the author suggests the complete registration of the entire population, and a general finger-print system. A normal working day is advocated under good sanitary conditions while home manufacture is condemned. A vigorous affirmative statement is made relative to the question of minimum wage legislation. Here, again, abnormal life comes to the surface in a brief but effective discussion of the unemployed and of measures for their relief. Among the recommendations are: employment bureaus, expansion of the work of relief agencies, unemployment insurance, adjustment to seasonal trades, and workmen's compensation.

After showing that marriage is still popular, the author empha-

sizes the need of decent standards of living as well as of wise expenditure of income. He concludes that household management deserves the application of the best brains of the land; nevertheless, he says, wisely, that society must develop community action for the betterment of the home. Abnormal home conditions also receive attention and the following subjects are handled very briefly: intemperance, crime, disease, divorce, desertion, and widowhood.

The working lifetime of the individual must be prolonged; thrift should be encouraged and family responsibility be developed for the obligations imposed by age. If necessary, a well-devised system of social insurance may be established to supplement the need.

The book consists of a series of public lectures and, accordingly, is written in racy English appropriate to its purpose. So short a presentation of "the normal life" is necessarily sketchy and many subjects are scarcely touched. The factor of religion might have received additional space.

GEORGE B. MANGOLD.

The Pittsburgh District: Civic Frontage. (New York: Survey Associates, Inc. 1914. Pp. xviii, 554. \$2.50.)

Wage-Earning Pittsburgh. (New York: Survey Associates, Inc. 1914. Pp. xvi; 582. \$2.50.)

These two volumes complete the six in which are published in book form the findings of the Pittsburgh survey. *The Pittsburgh District: Civic Frontage* consists mainly of articles dealing with general civic conditions, not primarily industrial, published for the most part in *Charities and the Commons* in 1909. The hitherto unpublished material includes an article upon "The disproportion of taxation in Pittsburgh," by Shelby M. Harrison, describing the rather local and hence not generally significant system of classifying real estate for purposes of taxation; a most interesting account by Florence Larrabee Lattimore of Pittsburgh's care of dependent children under the title of "Pittsburgh as a foster mother" which it is to be feared has wide significance and general applicability in many American states; a description of "The new Pittsburgh school system"; and a valuable account of the inception, conduct and significance of the Pittsburgh survey, by Paul U. Kellogg.

The title of the other volume, *Wage-Earning Pittsburgh*, is not particularly appropriate since the four volumes previously published all dealt with wage-earning Pittsburgh. In addition to some

previously printed articles this volume contains "Mediaeval Russia in the Pittsburgh district," by Alexis Sokoloff; "One hundred negro steel workers," by R. R. Wright, Jr.; "Industrial hygiene of the Pittsburgh district," by H. F. J. Porter; "Sharpsburg: a typical waste of childhood," by the late Elizabeth Beardsley Butler; "The reverse side," by James Forbes; and a number of important appendixes. Mr. Porter's valuable article is not very exactly described by its title since it treats not solely of what would to most be connoted by its title but also of the recruiting of employees, of general welfare work, of the development and of the stability of employees. While recording progress since the date of the survey, he calls attention to many inexcusably low standards still prevailing. He well says: "What has been needed has been to overcome the inertia of managers whose minds were molded under the fierce competition that in the 90's existed between the companies that now compose the corporation." The subtitle of Miss Butler's article is so felicitous in its statement that no account of it is necessary, although the temptation is strong to insert the word "ghastly." Mr. Forbes deals with police, the underworld, mendicancy, lodging houses, and prostitution. That Pittsburgh is but a segment of national conditions; that the connections of vice are widely extended; and that, nevertheless, local evils are controllable are the conclusions forced home by this most experienced investigator.

Mr. Kellogg's statement in the introductory note that in these two volumes "the effort has been made to preserve the validity of the reports as a transcript of conditions at the time of investigation; but to bring out in text, footnote, and appendix, noteworthy changes for good, or the persistence of noteworthy evils" seems to be substantiated by the frequent improvement in conditions noted, and unfortunately also by many descriptions of continuing evils, as, for example, Mr. Oserioff's account of a Soho Hillside in 1914, showing the persistence of sanitary neglect in central Pittsburgh.

Every picture, even by camera or artist, fails to convey all that the original seems to be to those familiar with it, and hence calls forth criticism. It was inevitable that an attempt to describe social conditions in a great dynamic social group should have led to much resentment and denial by those whose attention was directed to finer sides of the life of the city than those upon which the study was focused. A careful reading of Mr. Kellogg's account of the

survey will show that those who made it were not hostile to Pittsburgh, were not unaware of the city's progressive life, were successful in aiding constructive work, and had the national bearings of this scientific investigation continually in mind. A few quotations may help correct some misapprehensions as to the attitude of the survey:

We did not turn to Pittsburgh as a scapegoat city; progressive manufacturers have here as elsewhere done noteworthy things for their employees and for the community. Yet at bottom the District exhibits national tendencies . . . Our purpose was to make the Survey not merely a criticism or an inventory, but a means for establishing relations which would project its work into the future . . . Mr. Woods shows how many forms of progressive social service had gained a foothold . . . in the fields reviewed by our reports perhaps the most notable reforms have been the revolution in the school administration; the overthrow of the unjust tax system; the creation of a department of health; the enactment of adequate housing laws; the creation of an efficient minor court of justice for civil cases; the work of the Morals Efficiency Commission; the adoption of a comprehensive relief plan by the United States Steel Corporation; and the rapid development of safety engineering. In enumerating these advances, and noting that the work of investigation was of appreciable service with respect to some of them, it should be borne clearly in mind that the Survey has never made pretensions to being the founder, originator or discoverer of civic progress in Pittsburgh.

This is not the place to attempt an estimate of the results of this particular survey nor to discuss the scientific value of the survey as a method; but I think that all who are familiar with its published results will assent to Mr. Kellogg's claim that "in its combination of spirit, scope, and technique, the Pittsburgh Survey was the first of its kind"; and that

The Survey was distinctly in line with progressive methods in business and in the professions. It was kindred to what the examining physician demands before he accepts us as insurance risks, what a modern farmer puts his soil and stocks through before he plants his crops, what the consulting engineer performs as his first work when he is called to overhaul a manufacturing plant. The wonder is not as to the nature of the undertaking, but that the plan had never been tried by a city before.

HERBERT E. MILLS.

Vassar College.

A Model Housing Law. By LAWRENCE VEILLER. (New York: Survey Associates, Inc. 1914. Pp. viii, 349. \$2.00.)

Lawrence Veiller has been the most prominent of American writers on the subject of housing. He first became known to the

American public through *The Tenement House Problem*, a two volume work published in 1903 in coöperation with Mr. Robert W. deForest. When the National Housing Association was established, in 1910, Mr. Veiller was made secretary and director. He has since published: *A Model Tenement House Law* (1910); *Housing Reform: A Handbook for Practical Use in American Cities* (1910); and this volume. The *Model Tenement House Law* was, to a considerable degree, similar to the New York Tenement House Act of 1901, which had been framed largely by Mr. Veiller. This present volume is an elaboration of *A Model Tenement House Law* and an attempt to adapt its provisions to the needs of the small American cities and towns. Its chapters cover all types of habitation, not only tenements but also cottages, hotels, jails, convents, and the like.

The arrangement of *A Model Housing Law* is convenient. Article 1 submits definitions and general provisions. Article 2 contains all provisions touching dwellings to be erected subsequent to the passages of the act under the titles, light and ventilation, sanitation, and fire protection; article 3, provisions on the subject of alterations; article 4, all provisions which relate to maintenance of dwellings; article 5 deals with compulsory improvements in dwellings erected prior to the passage of this act; article 6 with requirements and remedies—chiefly provisions for enforcement. Each provision is strengthened by one or more paragraphs showing the reasons for its enactment. Some 80 diagrams are submitted showing the type of house, lot, or block arrangement required, or showing undesirable types made impossible by this act.

The law is carefully devised, and from the politician's point of view skilfully defended. But little attempt has been made to discover and show the ultimate scientific basis of the provisions. The appeal is throughout to public opinion or superficial reasoning; careful arguments from economics or bacteriology to support the provisions are not submitted. His intention is to reach evil conditions by immediate "practical" measures. It must be admitted that the provisions are generally good if considered as experimental, but it is essential to test the effects of each provision by careful records in cities adopting the law. This recommendation is not made by Mr. Veiller, who appears to believe his law infallible. There is real danger that this law, like much of American social legislation, will be applied without measuring the effects upon health, business, rentals, and the like.

It is possible to find fault at many points with the details. These defects are, however, not generally serious. An example of one of the worst mistakes is available on page 192 in which is the provision: "Except in multiple-dwellings of Class B, no person not a member of the family shall be taken to live within any apartment, group or suite of rooms" without consent, in writing, of the board of health. On page 34, however, Mr. Veiller has defined a family as "a group of persons living together, whether related to each other by birth or not," which clearly makes the above provision valueless. Several provisions are insufficiently defended, as, for example, note 3 on page 72 and note 7 on page 74. The law is weakened at many points by concessions which are inconsistent with the general principles of lighting and ventilation incorporated in the main provisions of the act, as, for example, the permission in case of hotels that no rear yard be provided, thus making it possible for hotels to shut out the light and air from the rear apartments of neighboring dwellings. The provisions for courts (p. 89) fail to provide adequately for light and ventilation of lower floors. Paragraph 98, relative to sinks, is much less satisfactory than many laws already in existence in American cities. In general, however, the provisions are excellently arranged and well defined.

This housing law is a model "only in the sense of being a working model upon which others may build." In the seventh chapter, however, Mr. Veiller states that this law may be rendered "ideal as to the light and ventilation of all future dwellings" if it is so modified as to prohibit the erection of residence buildings exceeding two rooms in depth. One may infer from his diagram that such buildings might be built in terraces thus excluding side light and air and might be built with rooms facing to the north. This clearly makes possible conditions of crowded artificial living and of sunlessness which are far from ideal.

The spirit of the book is somewhat controversial, as in the first chapter. Statements are occasionally inaccurate. An example is submitted in the following quotation: "The housing problem is essentially the problem of preventing people from maintaining conditions which are a menace to their neighbors or to the community"—a definition so loose that it would include many industrial and other social problems.

In general, it should be stated for *A Model Housing Law* that it is a valuable addition to the literature on the art of housing

reform. It is almost invaluable for the use of persons in municipal or state government or housing associations who wish to improve their local housing legislation and who are unwilling or unable to have recourse to expert advice. The book, though highly suggestive, is not a large contribution to housing science as distinguished from the art of housing reform, but it is likely to result in the passage of a series of quite similar housing laws throughout the country which will make possible the discovery of the effect of similar provisions in diverse environments. Already Grand Rapids and Duluth have passed ordinances largely based upon this book.

JAMES FORD.

Harvard University.

Livelihood and Poverty. A Study in the Economic Conditions of Working-Class Households in Northampton, Warrington, Stanley, and Reading. By A. L. BOWLEY and A. R. BURNETT-HURST. (London: G. Bell and Sons, Ltd. 1915. Pp. 222. \$1.40.)

The Ratan Tata Foundation "to promote the study and further the knowledge of methods of preventing and relieving poverty and destitution" is responsible for the publication of this book which is interesting not only for the statistical method employed, but also for its conclusions. In 1912 Dr. Bowley made an experimental study of the working-class families in the city of Reading, and the experience there gained served to economize energy in the surveys in the other towns made the following summer by Mr. Burnett-Hurst. In order to obtain an accurate sample of the working-class population, the tax lists in Stanley and Warrington and the directories in Northampton and Reading were carefully checked over, every twentieth building being noted. These buildings were then visited, and information was collected from all that were inhabited by working-class families. The only case in which another building might be substituted was that of a house found vacant, when the next dwelling on the left was to be approached. By this means schedules were filled out at almost exactly one house in twenty. Wherever it was possible to check the results thus obtained by figures in the census or Board of Trade reports, the comparison showed that the statistics gathered by the investigators were quite accurate. It seems possible to accept with confidence Dr. Bowley's well-argued conclusion that the deductions drawn from the statistics are truly representative of the four cities in question.

Three main problems are discussed for the towns collectively and individually. First a careful study of housing was made. It was found that the typical dwelling in Northampton had six rooms, in Reading five, in Warrington four, and in Stanley three. The reason for the prevalence of these tiny homes in Stanley is the fact that the collieries furnish dwellings rent-free to many of their employees, and give rent allowance to others. If an employee refuses a free house he is denied his rent allowance. This coercion drives a great number into the company buildings which are very small. In measuring overcrowding, the standard of the British census is discarded. Instead of taking the undiscriminating limit of two to a room, this study counts an adult as one, a child under five as one fourth, a child five but under fourteen as one half, and other children as three fourths each. Then a house is considered overcrowded if the average population is more than one to a room. By this standard it was found that 8.7 per cent of the houses in Northampton, 19.7 per cent in Warrington, 13.5 per cent in Reading, and 50 per cent in Stanley were overcrowded.

Elaborate statistics are given to show the composition of families. While the claim made in the introduction by R. H. Tawney, director of the foundation, that this investigation is "novel" is untrue, similar studies having been made by the United States Bureau of Labor, for example, nevertheless, the excellence of the work deserves high commendation, for the study was thorough. Perhaps the most interesting conclusion to be drawn from this phase of the survey was that of the 2536 adult male wage-earners investigated only 499 or 19.7 per cent were maintaining entirely without assistance a wife and two or more children. However, there were larger families having more than one wage-earner. On the supposition that in such cases, where there were a dependent wife and two non-earning children, the head of the family entirely supported four, the maximum possible proportion of men bearing alone the burden of maintaining a wife and two or more children each was 36.2 per cent.

The third and most vital problem was that of the sufficiency of earnings. Rowntree's standard of the minimum cost of living for York in 1899 was somewhat modified by allowing the laborer two pounds of meat a week, and by drawing closer distinctions between the food consuming needs of the children. By this new standard, which actually made poverty appear less than Rowntree's, in Northampton 5.9 per cent, in Warrington 10.9 per cent, and in

Reading 15.1 per cent of all households were below the poverty line. That is their incomes from wages, pensions, lodgers, and property were not sufficient to provide essential food and clothing after rent had been paid for the house in which the family was living. It was assumed, with good foundation in observation, that the rent was brought to a minimum by the families themselves. These figures are more impressive when it is further noted that of the non-wage-earning school children, 12 per cent in Stanley, 16 per cent in Northampton, 25 per cent in Warrington, and 47 per cent in Reading were members of these sub-standard families. The belief is expressed that the secret of poverty prevention lies in raising wages to a point that allows efficient living.

Cautiously written, thoroughly considered, well founded upon carefully planned tables, this book is one which inspires confidence. It is full of interesting facts and fertile suggestion.

FRANK H. STREIGHTOFF.

De Pauw University.

NEW BOOKS

D'ALFONSO, N. R. *Una nuova fase dell'economia politica e il caro prezzo de' viveri. Naturalismo economico.* Second edition. (Milan: Società Editrice Libraria. 1915. Pp. 67. 21.)

The primary doctrines of this pamphlet are not new; nor are many of the secondary ones. The high cost of living is attributed to well-known social movements: the industrial revolution, the concentration of population, talent, capital, money, and activity in cities, and the consequent decline of the landed industries. It is viewed as a salutary warning of an unnatural and unfortunate development. But better days are coming. There will be a happier balance of rural and urban life, an economic naturalism, when public and private agencies shall have done their slow work in the intellectual, technical, aesthetic, moral, and spiritual education of the people.

The author, apparently, is unacquainted with the doctrines of the economists whose inadequacies and superficialities he would correct and with some of the best established facts and principles of sociology and economics. But he writes most pleasingly, and he has convictions, always interesting, as to metallic and paper money, agriculture and stock raising, education, the origin of slavery, the purposes and limitations of orthodox economists, vegetarianism, the perils of overheated houses, the wholesome social influence of Roman Catholic Christianity, and a score of other subjects.

WILLARD C. FISHER.

ANDREAE, P. *The prohibition movement in its broader bearings upon our social, commercial and religious liberties.* (Chicago: F. Mendelsohn. 1915. Pp. 421. \$2.)

BLOOMFIELD, M. *Readings in vocational guidance.* (Boston: Ginn. 1915. Pp. 723. \$2.25.)

BURTON, M. G. *Shop projects based on community problems.* (Muncie, Ind.: Vocational Supply Co. 1915. Pp. 382. \$1.)

CRAIG, F. A. *A Study of the housing and social conditions in selected districts of Philadelphia.* (Philadelphia: Henry Phipps Institute. 1915.)

EICKEMEYER, W. *Zur Frage der zweiten Hypothek beim privaten grossstädtischen Wohnhausbau und -Besitz in Deutschland.* (Stuttgart: Kohlhammer. 1915. Pp. xii, 181. 4 M.)

GIBBONEY, D. C. *Local option or prohibition.* (Philadelphia: Penn Prtg. House. 1915. Pp. 53. \$1.)

HENDERSON, C. R. *Citizens in industry.* (New York: Appleton. 1915. Pp. xviii, 342. \$1.50.)
To be reviewed.

HOLLAND, R. W. *The law relating to the child; its protection, education, and employment.* (London: Pitman. 1915. Pp. 142. 5s.)

IRWIN, E. A. *Truancy; a study of the mental, physical and social factors of the problem of non-attendance at school.* (New York: Public Education Association of the City of New York, 8 West 40th St. 1915.)

JAMES, H. G. *A handbook of civic improvement.* (Austin: Univ. Texas. 1915. \$1.)

JOHNSON, W. E. *The liquor problem in Russia.* (Westerville, O.: American Issue Pub. Co. 1915. Pp. 230. \$1.)

LEAKE, A. H. *Means and methods of agricultural education.* Hart, Schaffner & Marx prize essays, XXI. (Boston: Houghton Mifflin. 1915. Pp. xxiii, 273. \$2.)

LEE, P. E. *Social work with families and individuals. A brief manual for investigators.* (New York: N. Y. School of Philanthropy. 1915. Pp. 16.)

MEYER, H. H. B. *List of references on prison labor.* (Washington: Supt. of Docs. 1915. Pp. 74. 10c.)

RALPH, G. G. *Elements of record keeping for child-helping organizations.* (New York: Survey. 1915. Pp. 195.)

SHURTER, E. D. and FRANCIS, C. I. *An educational test for immigrants; bibliography and selected arguments.* (Austin, Tex.: Univ. Texas. 1915.)

SINCLAIR, U. B. *The cry for justice; an anthology of the literature of social protest. Selected from twenty-five languages, covering a period of five thousand years.* (Philadelphia: John C. Winston Co. 1915. Pp. 891. \$2.)

TREADWAY, W. L. *Care of mental defectives, the insane, and alcoholics in Springfield, Illinois. A study by the National Committee for Mental Hygiene.* (Springfield, Ill.: Springfield Survey Committee. 1914. Pp. 46. 15c.)

WARBER, G. P. *Social and economic survey of a community in north-eastern Minnesota.* (Minneapolis: Univ. of Minn. 1915. Pp. viii, 115. 25c.)

WEAVER, E. W. *Profitable vocations for girls, prepared by a committee of teachers.* (New York: A. S. Barnes. 1915. Pp. 212. 75c.)

WILEY, M. A. *A study of the problem of girl delinquency in New Haven.* (New Haven, Conn.: Civic Federation of New Haven. 1915. Pp. 89.)

WILLIAMS, J. H. *A study of 150 delinquent boys.* (Stanford University, Calif.: Stanford Univ. 1915. Pp. 15.)

WILSON, L. A. *A list of helpful publications concerning vocational instruction.* (Albany: Univ. of State of N. Y. 1915. Pp. 52.)

WOODSON, C. G. *The education of the negro prior to 1861.* (New York: Putnams. 1915. Pp. 454. \$2.)

The General Education Board. An account of its activities, 1902-1914. (New York: General Education Board. 1915. Pp. xiv, 240, illus.)

Handbooks on London trades. Clothing trades. Pt. I, Girls. (London: Board of Trade. 1915. 2d.)

List of references on prison labor. (Washington: Library of Congress. 1915. Pp. 74. 10c.)

Maternity: letters from working women. (London: Bell. 1915. 2s. 6d.)

Mental defectives in the District of Columbia. Bureau publication no. 13. (Washington: Children's Bureau. 1915. Pp. 13.)

Welfare work. A selected bibliography. (New York: Russell Sage Foundation. 1915. Pp. 3.)

Insurance and Pensions

A Standard Accident Table as a Basis for Compensation Rates.

Distribution of 100,000 Accidents. By I. M. RUBINOW. (New York: The Spectator Company. 1915. Pp. 63. \$1.50.)

Dr. Rubinow's purpose was to determine the relative frequency of the several injuries and conditions which are distinguished in American workmen's compensation legislation and thus to help toward adequate and just premium rates in compensation insurance. Introductory pages show the author's difficulties, especially from dearth of directly relevant data, and his methods; and concluding paragraphs give brief hints as to the use of the table. But the body of the booklet consists of a series of computations to show

how many deaths should be expected from 100,000 industrial accidents, how many permanent total disabilities, and so on, for the other injuries and conditions which the statutes distinguish. In the author's suggestive words, "it was decided . . . to construct something akin to the standard mortality table in life insurance."

Of such a table there was acute need. For, until just now, lack of scientific guidance compelled insurers to fix their compensation premiums by processes scarcely to be distinguished from guessing. And Dr. Rubinow has done his pioneer work extremely well. Drawing chiefly upon materials found in Europe, where there has been a longer experience with workmen's compensation, he has exercised admirable skill in producing, collating, and interpreting data. Beyond what most men would have thought possible in advance of the achievement, he has presented data for nearly or quite every element which has a proper place in such a table as his. The result is a body of information which carriers of compensation insurance in America must use henceforward.

But too much must not be expected from the table. It is far indeed from being a complete guide to adequate and just premium rates. In fact, with most elements or factors of rates it has nothing whatever to do, with office and field expenses of insurers, with general accident rates, and with scales of compensation. Only when combined with other data will it show how much must be charged to policy holders collectively. And there is the limit of its usefulness. It can give no direct help in the apportionment of adequate and just rates to the individual policy holder, to whom alone insurance is sold and for whom alone rates are prepared and quoted. The distribution of injuries is based upon the run of accidents in the many varied occupations of the state or nation; and it will not hold for the particular industries of the individual employers, any more than will the general accident rate of the state or nation. The closeness of kinship with the mortality table, therefore, must not be exaggerated. The policy holder is individualized in compensation insurance.

Nor is the book free from minor or superficial faults. Indeed, these abound, of a full dozen sorts, from typographical errors, incorrect English, and arithmetical inaccuracy to unwarranted interpretations, neglect and denial of relevant data, and questionable statistical or social principles. Illustrations must suffice. There are two typographical errors on page 20, four on page 28, and two on page 29. The average of 1048, 782, 750, and 748 is not

837 (p. 19); the mean of 49 and 65 is neither 50 nor 56 (p. 28). It is not true that there are no American data for permanent total disabilities (p. 22) or degrees of partial disability (p. 26). The first report of the Massachusetts Industrial Accident Board does not report all dismembersments as permanent disabilities (p. 20); nor does it omit the number of injuries of less than one day's duration (p. 18), which was 36,901 and not 36,774 (p. 34). Burial benefits were allowed for all fatal injuries in more than "a few" states at the time Dr. Rubinow wrote (p. 56), in fact, in just half of the 24; and there were not "a great many" laws which gave life pensions for permanent total disabilities (p. 54), but only 9. It was not possible to have life pensions in all cases of permanent partial disability in Ohio, Kentucky, and Maryland (p. 48). The 3,005 married employees injured in Washington in 1912 were not all killed (p. 47): only 279 fatal injuries were reported in that year.

Dr. Rubinow's fundamental assumption that the distribution of injuries will be approximately the same in all lands (pp. 8, 34) and his repeated comment that divergencies in reports are due to differences in judgment rather than in physical fact (pp. 25, 30) are not consistent with the intrinsic probabilities of the case and scarcely can be reconciled with facts familiar on every side or with his own figures and comment for deaths (p. 19), permanent total disabilities (p. 22), partial disability (p. 25), or degrees of partial disability (p. 30). Nor would it boot much were the case different. The basis of compensation awards and of compensation insurance is not the naked or objective physical fact, but the physical fact as judged by those who administer the laws. The percentage of the married among the employed, including many scarcely yet of marriageable age, is not as high as among the total male population of 20 years and more in the United States, 64.6 per cent (p. 42), but is better placed somewhere between the figures actually found in compensation experience in an eastern state like Massachusetts, 58.6 per cent, and in such western states as California, 46.9 per cent and 48.9 per cent, and Washington, 46.8 per cent. In this country, happily, there are probably not so many as 110 permanent total disabilities to the 100,000 accidents (p. 23): in Massachusetts in 1912-13 there were but 7 from 52,267 injuries and in Washington there were but 28 in 42,231 cases disposed of up to September 30, 1914. Dr. Rubinow casts out of his reckoning the Danish data for degrees of permanent partial disability, a

general average of 18.5 per cent with 73.6 per cent of all cases below 20 per cent, because he considers the figures manifestly abnormally low (p. 30); and he makes his standard figures by averaging Italy at 21.6 per cent, Germany at 26.3 per cent, and Austria (without dismemberments) at 29.1 per cent. Yet Washington has shown general averages of 10.8 per cent, 11.5 per cent, and 11 per cent for 1912, 1913, and 1914, with 85.3 per cent, 84.3 per cent and 84.6 per cent below the 20 per cent disability in these same years.

The author has exercised a legitimate discretion in leaving for consideration in the state differentials, with which the standard table must be supplemented, certain factors of compensation costs which are not general in the statutes, as allowances for disfigurement without necessary disability, allowances for dependents of those totally disabled, and reduced pensions for alien or non-resident dependents. Pensions for dependent children continued until their ages of self-support might also have been left out of the standard table; for these are no more common than allowances for disfigurement.

It is evident that the blemishes of the book are of different degrees of importance. Some are but the slips which it is all but impossible to avoid in treating a subject of very intricate detail. Most do no more harm than to halt or confuse the reader momentarily; and these are to be noted chiefly because they were not to be expected in the work of an insurance expert, least of all in the work of Dr. Rubinow. Others impair appreciably, but not seriously, the merit of the book and the table. It can not be unfair to mention them. But it would be unfair to emphasize them. For Dr. Rubinow recognizes the necessarily rough and provisional character of his computations and the probable need of rewriting his table when the years shall have yielded us better data out of our own experience with workmen's compensation. Perhaps he, and others too, may believe that energy would have been wasted in striving after a closer accuracy in the first and provisional edition of a table which soon must be recast. Some, however, will hold differently.

WILLARD C. FISHER.

Westerlo, New York.

NEW BOOKS

BEVER, D. S. *Industrial accident prevention.* (Boston: Houghton Mifflin. 1915. \$7.50.)

BRODSKY, R. J. *Workmen's compensation act of the state of Pennsylvania explained for employers and employees.* (Philadelphia: R. J. Brodsky, 867 Drexel Bldg. 1915. Pp. 35. 25c.)

BULLOCK, E. D. compiler. *Selected articles on mothers' pensions.* (White Plains, N. Y.: Wilson. 1915. Pp. 188. \$1.)

FLITCRAFT, A. J. *1915 dividends and net cost on annual dividend ordinary life, 20-premiums life and 20-year endowment policies issued at ages 25, 30, 35, 40, 45, 50, 55, and 60 upon the latest reserve bases in use by the several companies.* (Oak Park, Ill.: A. J. Flitcraft. 1915. Pp. 114. \$1.50.)

FREY, N. J. *Cost of insurance during various years, American experience, three and one-half per cent. Illinois is standard.* (Chicago: Spectator Co. 1915. Pp. 51. \$10.)

MEADOR, W. *A thousand and one hints to agents of industrial life insurance companies; a book of instructions for solicitors.* (Chicago: Spectator Co. 1915. Pp. 105. 50c.)

OTIS, S. L., compiler. *Tables of comparative benefits of various [American] compensation laws.* (1915. Pp. 21.)

This is a pamphlet well-planned for the use of insurance men and others, but unhappily timed to miss some amendments of 1915, and not uniformly well prepared. It shows much skill in the presentation of data but not in their preparation; and it shows some scores of omissions, incorrect figures, and misleading statements.

Death benefits have weekly limits, \$.75 and \$11.25, in Vermont and a maximum, \$10, in New Hampshire. Only manual and mechanical laborers are covered in Arizona and New Hampshire. Death benefits in Louisiana are not uniformly 50 per cent of wages, but from 20 per cent to 50 per cent. In California the limit of life pensions for partial disability is 40 per cent of earnings, not 30 per cent. Minimum weekly payments are \$6, not \$5, for disabilities in Illinois, and \$6.50, not \$6, for dismemberments in Minnesota. The compensations are compulsory, not elective, in public employments in Colorado, Illinois, Indiana, Iowa, Louisiana, Michigan, Montana, Pennsylvania, and Wisconsin. Illustrations might be multiplied. By the exercise of greater care and skill, statements more accurate, fuller, and otherwise much more serviceable might be presented within the same narrow space.

WILLARD C. FISHER.

PARKER, A. J. *Insurance law of New York; being chapter 28 of the consolidated laws and chapter 33 of 1909, including all amendments of 1915, with notes and annotations.* (New York: Banks Law Pub. Co. 1915. Pp. 423. \$3.)

ROBINSON, M. H. *A report on fire insurance rates in Illinois.* (Springfield, Ill.: Efficiency and Economy Committee. 1915. Pp. 1004-1028.)

SEXTON, W. *Fire insurance.* (San Francisco: The Coast Review. 1915. \$2.)

ZARTMAN, L. W. and PRICE, W. H., editors. *Yale readings in insurance.* Two volumes. (New Haven: Yale University Press. 1915. Pp. xvii, 483; xviii, 408. \$4.50.)

Yale was the first university to undertake on a large scale a course in insurance, although the subject was to be found in the curricula of a number of universities before that time and is to be found in the curricula of most universities today. The lectures, by experts in the various subjects, which were given in this course some eleven years ago were published at the time in a volume entitled *Yale Lectures on Life Insurance*. The demand for this was so considerable that when it went out of print it was amplified and in 1909 *Yale Readings in Insurance* appeared in two volumes. The basis was the original Yale lectures; but in addition there were a number of new chapters, particularly in the field of insurance other than life. In the first edition of the *Readings* the separation of subjects was: I, Life; II, Fire and Miscellaneous. In this second edition the separation is into Personal Insurance and Property Insurance, a more significant division.

It is characteristic of the new social point of view that the subject of employers' liability insurance has been transferred from volume II to volume I, in spite of the fact that as a matter of analysis it is more strictly to be classed as property insurance. A new chapter in this subject has also been added. Four other chapters have been added to the first volume, one dealing with the development of life insurance mathematics, two with the question of limitation of expenses and distribution of dividends, being a résumé of the most conspicuous reforms that followed the investigation of 1905-1906, and third a chapter on the algebraic method of computing premiums. The new matter in the second volume consists of two chapters taken from the report of the Merritt committee, which investigated fire insurance in New York in 1910-1911, and two chapters from Kitchens' *Principles and Finance of Fire Insurance*. This volume is devoted mainly to fire insurance, although attention is also given to marine insurance, steam-boiler insurance, etc.

As a general popular treatment of some of the more important aspects of insurance these volumes will continue to enjoy a merited success.

ALBERT W. WHITNEY.

Reports of fire insurance companies for year ending December 31, 1914.
Tenth annual edition. (New York: Spectator Co. 1915. Pp. 392. \$5.)

Reports of cases under the Massachusetts workmen's compensation act, July 1, 1913, to June 30, 1910. Vol. II. (Boston: Industrial Accident Board. 1915.)

Workmen's compensation law of the state of New York. Revised with amendments, June, 1915. (New York: Sterling Press. 1915. Pp. 55. 25c.)

Workmen's compensation law of the state of Oregon. Revised with

amendments, April, 1915. (New York: Peck & Durham. 1915. Pp. 28. 25c.)

Workmen's compensation law of the state of Minnesota, May, 1915; Pennsylvania; Rhode Island, July, 1915; West Virginia, April, 1915. (New York: George I. Wilson & Sons. 1915. Pp. 32, each. 25c. each.)

Pauperism and Charities

NEW BOOKS

DEVINE, E. T. *Organized charity and industry. A chapter from the history of the Charity Organization Society of the City of New York.* (New York: N. Y. School of Philanthropy. 1915. Pp. 16.)

NASSAU, M. L. *Old age poverty in Greenwich Village; a neighborhood study.* (New York: Revell. 1915. Pp. 105. 60c.)

Constructive social measures. A review of two years' work. (New York: Assoc. for Improving Condition of Poor. 1915. Pp. 27.)

Socialism and Co-operative Enterprises

The Socialists and the War. A Documentary Statement of the Position of the Socialists of All Countries with Special Reference to their Peace Policy. By WILLIAM ENGLISH WALLING. (New York: Henry Holt and Company. 1915. Pp. xii, 512.)

Mr. Walling has given us a most admirable piece of editing. With much skill he has arranged the documentary evidence and commented upon it with restraint and discrimination. We are first shown the general position of the socialists on the war, with their attitude toward the vital issues—nationalism, militarism, and imperialism. This includes methods of preventing war, the general strike, and refusal to vote money for military purposes.

Part II gives us an account of the Balkan wars and the revolutionary protests in Russia and Italy.

Part III brings us to the outbreak of the conflict in which socialist parties define their positions.

Part IV shows opinion and action after the war is on, and Part V, the efforts toward peace, with a final chapter on the relation of the war to further socialistic measures.

Nothing reported from Europe since the author's work was finished changes in any essential the impression which his study leaves upon us. That French socialists should snub those English comrades who would gather at The Hague to talk of peace, is also what we find among the most influential of English socialists,

now almost bitterly hostile toward the I. L. P. because of its lack of old-fashioned patriotism.

A recent issue of the socialist *New Statesman*, from which Mr. Walling repeatedly quotes as high authority, shows rather ruthlessly how the rough exigencies of war are hardening opinion within the movement and creating antagonisms that can not fail to leave scars when the war is at an end.

English socialists must be Englishmen first and socialists afterwards, it says in sharp rebuke of the Independent Labor Party. Then, with greater severity, it adds:

What, as it seems to us, they have overlooked is that nationalism must come before internationalism. We are speaking not of theories but of facts. Before individuals in one nation can make substantial overtures of friendship to the people of another nation they must earn the right to speak in the name of at least a considerable section of their own countrymen. But for whom can the I. L. P. speak? For no one outside its own strictly limited membership. It does not now represent even the British socialist movement, still less any appreciable section of the British working class. It has lost authority and respect not only at home, but amongst its friends abroad. Its internationalism has been tried in the fire and found wanting—found, that is to say, to be merely a vague anti-nationalism. . . . Who will listen to it, even in the International Socialist Congress? The British Labour Party, having borne its share of the burden and heat of the day, will have earned its right to be heard, but the I. L. P., having preferred to lift the hem of its garment lest it should be soiled by nationalist sentiment, will have ceased to count. It has flown the banner of a theoretical internationalism, but it has written across it "Futility."

That large numbers of protesting socialists in the Reichstag should now make themselves heard, also confirms Mr. Walling's contention that the struggle to stand out against war was both more earnest and more sustained than has been believed.

It seems to have been expected by the general public that socialists would stand out as lonely exceptions at a time when churchmen, men of letters, artists, and especially the men of science, were dropping international pretensions of every sort. That Guesde, or Südekum, or Victor Adler should take the nationalist quickstep, is as little strange as that great scholars and philosophers should do the same. In no section of society was the protest more earnest or more honest than among socialists.

These documents, upon the whole, add to one's respect for the integrity and ability of the socialist body. They bring out the poignant difficulties under which the various groups struggle to

keep their international faiths and yet meet the nearer demand of one's country in peril. Everywhere prevailing majorities show no doubt that, on their part, it was a war of defence.

The first distinct sign from German parties that it is to be turned into a war of conquest, has brought a socialist challenge so formidable, and from such increasing numbers, as to promise a most lively contest in German political life. It is nearly five months since the President of the Upper Chamber openly spoke out for annexation. Since then the militarist contingent has more and more shown its hand. Older socialists have not forgotten a very extraordinary provision of Marx. The dead were hardly cleared from the trap in Sedan, forty-five years ago, when Marx wrote that the annexing of Alsace-Lorraine would lead straight to a French and Russian alliance and then to war. There are no more powerful sections of influence in Germany than those agricultural and industrial groups which are now crying out for the retention of Belgium and a most important part of France. As in the French Revolution, so now the unsigned pamphlet appears against this party of conquest before it was safe to protest in a socialist journal. This stage is now past and, if we may believe reports, it is so near a crisis that most influential pro-war socialists hotly demand the exclusion from the party of many most honored names. Who would have believed that Kautsky would be among these?

In nothing is Mr. Walling's book more valuable than in its disclosure of those inexorable differences in opinion which a shattering event like this war was certain to bring about. Under the shock socialists behave monotonously like other folk. In Italy the *Avanti* is at war with the reformist branch. In South Africa the anti-war section sends out a manifesto which kicks as vigorously as the English "Union for Democratic Control." It is no secret that in France, where the immense tragedy has silenced faction as in no country except Germany, in the early stages, there is among socialists who are not at the front a seething discontent which threatens the unity of the party. Everywhere they are as sorely at odds over the more immediate determination of policies. They seize as readily upon all manner of excuses for actions that belie party professions. They break into factions which seem to have no foot of ground in common.

What is it that now unites Rosa Luxemburg and Dr. Liebknecht to leaders like Schiedemann and David? To Dr. Südekum,

Liebknecht is as much a traitor as is any Junker in the land. What havoc the veteran Hyndman makes with his comrades who think the war is explained by "capitalism." So ex-congressman Berger talks of socialist "nonsense" written about the war, as by those who "make their task easy" by simply blaming capitalism—which is "only one cause and a minor one at that." This is very different from Debs, who has it: "The profit system is responsible for it all."

Almost more important is Victor Adler's contention that labor's international interests are not common and united against those of capital.

As with many another too easy philosophy, this world war will compel a revaluation and a restatement of almost every "fundamental" in the socialist ritual. It will force much sharper distinctions and more rigorous tests in the most familiar and accepted terminology. Collectivism, socialism, syndicalism, are words that must give a more satisfactory account of themselves. As this is written, an article reaches me in an English socialist journal on "The New Syndicalism." So soon does this most recent variation require an altered emphasis!

As with secret diplomacies and their favorite formulas; as with theories of nationality, state, and sovereignty; as with the whole batch of liberal and optimistic politics, not one of the revolutionary *isms* will escape the severities of a discipline so searching that the socialist ideals, as a whole, will doubtless emerge a much more intelligible and formidable factor in social reconstruction.

JOHN GRAHAM BROOKS.

Cambridge, Mass.

Reflections on Violence. By GEORGES SOREL. Authorized translation by T. E. HULME. (New York: B. F. Huebsch. 1912. Pp. x, 299. \$2.25.)

It is doubtful if any book can be named that is better calculated to state the spirit and method of revolution than this special volume by Georges Sorel. The introduction alone will convince any reader that this study is not to be skipped by one who would know the most penetrating observations upon the various anarchisms of the hour.

It is frequently repeated, "Sorel has dropped his syndicalism and become a tory." In the brief note prefixed to this volume, he warns us that so far as concerns his philosophy of violence he is "more than ever convinced of its value." In the appendix he adds:

When, in 1905, I ventured to write in some detail on proletarian violence I understood perfectly the grave responsibility I assumed in trying to show the historic bearings of actions which our Parliamentary Socialists try to dissimulate with so much skill. Today I do not hesitate to assert that Socialism could not continue to exist without an apology for violence.

In seven chapters, he treats of violence in its relations to the class war; the decadence of the middle classes; our prevailing prejudices; the proletarian strike; the general (political) strike; the ethics of violence; and the ethics of the producers. It is here one sees at its best his more distinctive contribution: his contempt of the middle class and of all those who would conciliate it—Sidney Webb, Bernstein, Bellamy, Vandervelde and Jaurès. "All that can be put to his (Webb's) credit is that he has waded through uninteresting bluebooks and has had the patience to compose an extremely indigestible compilation on the history of trade unionism; he has a mind of the narrowest description," etc. To a man as acute as Tarde, Sorel tells us Webb seemed a "worthless scribbler."

In chapter 4 is his clearest exposition of the "myth" and its educational power over the masses as yet unspoiled by pedants and politicians. It is not of the least importance that myths are merely of the imagination. They move men to action. What is vital is that in every great social movement men should see the triumph of their cause pictorially. Mere evolutionary growth has no such heroic appeal. Marx's theory of surplus value is of the slightest consequence compared to the Marx myth—the catastrophic revolution. Sorel flinches from no test as he unfolds his philosophy of the myth in relation to the general strike and the class war. It was far better for Christians and for the world that they believed in the impossible. "The future lies in the hands of those who are not disillusioned. Wise men thought Mazzini a 'dupe'; but it can no longer be denied that without Mazzini Italy would never have become a great power and that he did more for Italian unity than Cavour and all the politicians of his school."

It is this rather haughty partizanship expressing itself in sharp historic judgments of this character which best enables us to measure the sobriety of this brilliant casuist. Things unknown and indefinite, the mere "torment of the infinite," have for him the highest practical value and sanction. He even dedicates his volume "A la mémoire de la campagne de ma jeunesse." On the

other hand, he has a passion for the definite, as in his entire conception and presentation of the proletariat as a class with "global" interests over against the capitalist class. It is the main function of violence to keep alive the sense of antagonism between these. He is adroit in diverting attention from the crude and immediate results of violence, trying rather to keep the imagination fixed on distant and idealized consequences which he construes in terms of social reconstruction. The derision with which he treats professors, progressives, reformers and sociologists is only a part of his profound distrust in the essential timidities of all compromise. Even the great whom he honored came to grief. "Taine failed in his enterprise as Le Play and Renan failed, as all those will fail who try to found an intellectual and moral reform on investigations, on scientific syntheses, and on demonstrations." And so "violence enlightened by the idea of the general strike" gets enthroned in this philosophy.

It has to be said that no extravagance deprives us of respect for this vigorous writer. Over against his severities toward social peace and peacemakers, he never flatters the proletariat, in whom he sees such saving gifts. These masses are the reservoir of primitive and enduring virtues. He quotes admiringly all evidence of our western vigilance committees and even that in New Orleans (1890) which made short work of the Italian *maffiosi* in spite of the fact that legal agencies were generations old in that community. One wonders what he would say of negro lynchings and Atlanta riots. Yet it is unfair to judge him finally by his concrete examples and analogies. He is in perfect agreement with Kautsky that the "*idea of revolution*" should be kept burning in the minds of the proletariat. That seems to him impossible without attendant violence, precisely as violence—or at least the idea and the threat of it—is known by labor leaders to have its place in modern strikes. We do not like to admit this, and labor leaders themselves publicly and piously disown violence. Sorel tries to compel us to face the fact without being ashamed of it.

Apart from what is known of his technical training, one has but to note in the present volume his skilled use of varied writers of first rank (Sir Henry Maine and Cardinal Newman are examples in England) to realize something of Sorel's intellectual equipment. His use of irony is too frequent but very telling, as in his innumerable thrusts at Jaurès, describing the "peasant duplicity" which would have made him a prince of cattle dealers"; or "Jaurès

no doubt believes he is acting for the greatest good of socialism just as the more easy type of casuists believed themselves the best and most useful defenders of the Church. They did even prevent weak Christians from irreligion as Jaurès saves rich intellectuals and induces them to *take up shares in the party journals.*"

In no two or three-page notice is it possible to criticise or even properly to "expose" this vigorous and fearless study. It is full of temperamental eccentricities which we have to tolerate if we would learn from it what it has to teach us. It is well translated.

JOHN GRAHAM BROOKS.

NEW BOOKS

LA CHESNAIS, P. G. *Le groupe socialiste du Reichstag et la déclaration de guerre.* (London: Colin. 1915. Pp. 101. 1s. 6d.)

KLEIN, H. H. *Bankrupting a great city (the story of New York).* (New York: H. H. Klein, 154 Nassau St. 1915. Pp. 188. 75c.)

O'BRIEN, C. *Coöperative mills and bakeries.* (Dublin: The Plunkett House. 1915. Pp. 50. 6d.)

RADOLF, L. *Vaterland und Sozialdemokratie.* (Leipzig: Duncker & Humblot. 1915. 1.50 M.)

RUCZKA, G. *Die russischen Sozialisten und der gegenwärtige Krieg.* (Vienna: J. Feith. 1915. Pp. iv, 79. 1 M.)

SAVOY, I. and TECK, M. O. *The A B C of socialism (including the A B C of economics).* (Boston: Badger. 1915. Pp. 140. 50c.)

WHITE, B. *Letters from prison. Socialism a spiritual sunrise.* (Boston: Badger. 1915. Pp. 163. 25c.)

Facts for socialists. Twelfth edition, enlarged. (London: Fabian Society. 1915. 2d.)

Municipally owned utility plants in the state of Ohio. (Chicago: Public Service Pub. Co. 1915. Pp. 305-331.)

Statistics and Its Methods

NEW BOOKS

BLEICHER, H. *Statistik. I. Allgemeines, Physikalische und Bevölkerungsstatistik.* (Leipzig: Göschen. 1915. Pp. 148. 0.90 M.)

BOWLEY, A. L. *The nature and purpose of the measurement of social phenomena.* (London: King. 1915. Pp. viii, 241. 3s. 6d.)

The title of this book suggests a scope very much more inclusive than is revealed by a perusal of the contents. The author recognizes this fact but states that the work is essentially a reproduction of five public lectures on this general subject and that the matter presented is intended to be suggestive rather than exhaustive. The book actually deals with the measurement of those phenomena relating to the

population, occupation, and economic welfare of the people of the United Kingdom, but the principles laid down are, in most respects, equally applicable to similar studies conducted in other nations.

Some of the subjects discussed are: the best method of dividing geographical area for the purposes of enumerating the population; the classification of persons according to the occupation and industry in which they are engaged; the division of the population into economic families; the social classification of the population; the classification of families according to income; the nature of family income; the measurement of consumption; the definition of the standard of living; the relation of the minimum standards to poverty; the methods of measuring the economic progress of a nation. The difficulties and pitfalls which the investigator must avoid are pointed out with great clearness and while few direct rules are laid down, many necessary lines of procedure are pointed out in a more or less definite way.

The chief merit of Mr. Bowley's work lies in the fact that the topics covered are dealt with more specifically and definitely than in the writings of his predecessors and that the ideas presented are brought together and discussed as a unit rather than in scattered fragments. The style is pleasing and the presentation is decidedly lucid and yet scientific in its nature. Governmental officials engaged in statistical inquiries should find the work especially helpful. If many of our would-be social reformers were to carefully digest the later chapters, a larger degree of sanity and common-sense might be instilled into much of the current literature on such subjects as the minimum wage and the standard of living.

WILLFORD I. KING.

CORRIDORE, F. *Elementi di calcolo infinitesimale per gli studiosi di statistica.* (Rome: Ermanno Loescher e C. 1914. Pp. 78. 2 l.)

DIENER, R. *Das Problem der Arbeitspreisstatistik und seine Lösung mit Hilfe von Berufssterblichkeits- und Lohnstatistik.* Staats- und sozialwissenschaftliche Forschungen, 184. (Munich: Duncker & Humblot. 1915. Pp. xxi, 84. 2.50 M.)

HENDERSON, R. *Mortality laws and statistics.* (New York: Wiley. 1915. Pp. iv, 111. \$1.25.)

To be reviewed.

KING, W. I. *The wealth and income of the people of the United States.* (New York: Macmillan. 1915. Pp. xxiv, 278. \$1.50.)

To be reviewed.

London statistics. Vol. XXIV, 1913-14. (London: Wyman. 1915. 10s. 6d.)

Statistical abstract of the British Empire, from 1899 to 1913. (London: Wyman. 1915. 1s. 3d.)

DOCUMENTS, REPORTS, AND LEGISLATION

Industries and Commerce

In submitting the report on *Cotton Production, 1914* (Washington, Bureau of the Census, 1915, pp. 30), it is announced that henceforth only one annual report on cotton instead of two will be published. Heretofore one has been issued in June on the production of cotton for the preceding crop, and one in October on the supply and distribution of cotton for the year ending August 31. As the cotton exchanges and statistical bodies have generally agreed on a change in the cotton year from the twelve months ending August 31 to the twelve months ending July 31, all reports of the movement of cotton now relate to the year beginning August 1.

From the Department of Agriculture have been received reprints from the *Year Book* of the Department for 1914: *Coöperative Marketing and Financing of Marketing Associations*, by C. E. Bassett and Clarence W. Moomaw (pp. 185-210); *Movement from City and Town to Farms*, by George K. Holmes (pp. 257-274); and *Retail Public Markets*, by G. V. Branch (pp. 167-184).

No. 97 of the Special Agents Series issued by the Department of Commerce (Washington, pp. 127) is devoted to *Commercial Laws of England, Scotland, Germany and France* and is prepared by A. J. Wolfe and E. M. Borchard. Others in this series are *Commercial Organizations in France*, by A. J. Wolfe (No. 98, pp. 75); *Cottonseed Industry in Foreign Countries*, by Thomas H. Norton (No. 99, pp. 73); and *Philippine Markets for American Lumber*, by Franklin H. Smith (No. 100, pp. 16).

Tariff Series No. 24 is a revised edition of *Consular Regulations of Foreign Countries (Canada and Latin-America)* prepared by L. Domeratzky (Washington, Department of Commerce, pp. 66).

The following series of business handbooks has now been issued by the Bureau of Foreign and Domestic Commerce: *Australia*, issued in 1911; *New Zealand*, 1912; *Russia*, 1913; *Alaska, Hawaii, Porto Rico, and Philippines*, 1913; *Canada and Newfoundland*, 1913; *South America*, 1914; *Dominican Republic*, 1914; and *British India*, issued in 1915.

The Department of Commerce, in its Miscellaneous Series No. 27, has issued a *Directory of American Sawmills*, prepared by J. C. Nellis and A. H. Pierson (pp. 260).

The Bureau of Mines issues a brief report on *Production of Explosives in the United States during 1914*, compiled by Albert H. Fay.

Of interest is Technical Paper 83, of the Bureau of Mines, on *The Buying and Selling of Ores and Metallurgical Products*, by Charles H. Fulton (Washington, 1915, pp. 43).

The Board of Commissioners of the Port of New Orleans has printed Volume I of *Analysis of Present Operation of the Port of New Orleans with Present and Proposed Systems of Rates*, by Ford, Bacon and Davis, Engineers (New Orleans, 1915, pp. 154). It contains a discussion of the port rate systems, a statement of the port charges as existing at New Orleans, Galveston, Mobile, New York, Philadelphia, and San Francisco, also a compilation of statistics of business operation, and a proposed rate system.

Investigation and Analysis of the Production, Transportation, Inspection and Distribution of Milk and Cream in New England, a bulletin of 63 pages, was recently issued by the Boston Chamber of Commerce (Boston, July, 1915). Mr. G. C. White, transportation specialist of the Office of Markets and Rural Organization, United States Department of Agriculture, and Professor R. H. Ferguson, of the department of agricultural economics of the Massachusetts Agricultural College, assisted in the collection and compilation of data for the bulletin. A brief introduction discusses the past and present conditions of the industry. The first chapter is devoted to the cost of production and the factors determining it. Chapter two takes up the subjects of collection, transportation, processing, and distribution. This includes also a classification of milk dealers, methods of transportation with some discussion of the rates and routes, the cost of distribution, and the prices to the consumer. The problems in the sale and distribution of these products are set forth in the third chapter; while the fourth emphasizes the need of proper inspection, grading, and standardization. The last section is devoted to suggestions and recommendations. Among the recommendations are coöperation among producers and distributors, uniform freight rates, better accounting systems for the dealers, and the dissemination of knowledge concerning the food values of milk and milk products.

A. E. CANCE.

Upon application to the author, copies may be had of an address on *The Problems of Port Development* presented by Edward F. McSweeney, chairman of the directors of the port of Boston, at the fourth annual convention of the American Association of Port Authorities, at Los Angeles, September, 1915.

The National City Bank of New York has for distribution *Economic Effects of the War*, an address delivered by George E. Roberts of the National City Bank before the West Virginia Bankers' Association in July (pp. 22).

An address delivered before the Alabama State Bar Association at Montgomery by Francis G. Caffey, solicitor for the federal Department of Agriculture, on *The United States Cotton Futures Act*, is published by the Office of Markets and Rural Organization (Washington, Aug. 11, 1915, pp. 80).

From the Ontario Department of Agriculture has been received Bulletin 234, *Organization of Coöperative Marketing Associations*, by F. C. Hart (Toronto, Aug., 1915, pp. 23).

Corporations

CENTRAL ELECTRIC STATIONS. With the volumes on *Telephones and Telegraphs* and the section in the *Census of Manufactures* on Electrical Machinery and Supplies, the report on *Central Electric Light and Power Stations and Street and Electric Railways with Summary of the Electrical Industries, 1912*, made by the Bureau of the Census (Washington, 1915, pp. 440), forms a survey of advancement in the industries founded on the applications of electricity. The progress of the central stations during the period 1907-1912 has been accompanied by further centralization of ownership and by important technical improvements. Also it has been marked by the growth of larger plants: the turbine has come into more general use in place of the steam engine, and the apparatus installed—steam engines, turbines, and dynamos—has been of greater capacity. Water power has been exploited still further: use of high voltage transmission in connection with both hydraulic and steam plants has made possible the abandonment of small stations and the utilization at distant points of energy generated on a large scale at strategically located centers. Improvement in the tungsten incandescent lamp has resulted in its substitution for the arc lamp for general commercial purposes, and also in its extensive use for street lighting. Electricity has been adapted to an increasing variety of industrial uses, both on a small and large scale, as is evidenced by the number of motors installed, particularly in the sections where water power has been developed. These changes have enhanced the importance of the central stations until their output of energy has become about double that of the street railways. In a number of cases, notably in Chicago and Philadelphia, the central

stations have taken over the task of applying current for street railway operations, and the movement in this direction has continued since 1912. The cost of electricity has been cheapened with more efficient generating methods and increased density of distribution.

Development in the street railway industry during the period covered by the census has been in the main along the lines of a more intensive utilization of existing facilities. In keeping with the tendency towards concentration and centralization, there has been little increase in the number of companies reported, but considerable growth in the average size of the companies, as indicated by miles of track operated and volume of business. Moreover, earnings have been added to in greater ratio than line or equipment, owing to the increasing density of traffic brought about by growth of population. Street railway traffic has increased much more rapidly than the passenger business of the steam railroads during the past decade. The expansion of traffic was sufficient to permit of a lower operating ratio in 1912 than in 1907 in spite of the fact that apparently larger provision was made for depreciation. Income has grown faster than capitalization, allowing for greater returns to stockholders.

The large mass of statistical data on central stations and street railways is supplemented by a discussion of the technical advances for the period in two reports by Thomas Commerford Martin which go far beyond the statistics collected by the Census Bureau and constitute a valuable record. They are mainly concerned with engineering and construction, describing new plants and new apparatus and equipment installed during this period. Many other topics, such as rates and fares and public regulation, are touched upon in a cursory way, the treatment resting upon a limited use of secondary material rather than on independent investigation. The problems and methods of rate regulation are merely indicated in an abstract of a paper on the work of the Wisconsin commission, and no account is given of the activities of the New York and other commissions in this field. Moreover, no attention is paid to the work of public utility commissions in regulating security issues.

Schedules of electric rates are reported for only a limited number of cities. Thus the rate schedule for Brooklyn is not given, although that used by the company operating in one of the wards of Brooklyn (Flatbush) is included. The schedule as reported for the New York Edison Company omits the power rate and the very important wholesale rates. In the section on street railways there is a valuable analysis of contracts for power between central stations and street and

steam railways. A table is given showing the average of rates in thirty cities on the basis of bills for typical installations and the same consumption of current, for which the details by cities would have been desirable. This table rests on the only practical method devised for comparing schedules founded on different principles, and future census inquiries might profitably include a comparative study of electric rates in cities on this basis.

Mr. Martin includes in his report, without criticism, statements from a memorandum submitted by the New York Edison Company to the Public Service Commission in a rate case, on the profitability of certain classes of customers, the rate reduction made to small customers in 1911, and the cost of making service connections. These statements might well be qualified in view of the action of the commission in that case and the extended analysis of the record appearing in Commissioner Maltbie's opinion. In the street railway section, there is embodied the substance of a report to the American Electric Railway Association on the profitable limits of a five-cent fare. The value of including in a government report data based on a limited investigation not made by its own agents and conclusions resting on debatable assumptions as to a fair return and proper valuation, may be questioned.

The detailed statistical data for both central stations and street railways are combined for presentation in state totals. This is not the natural basis of classification. For the large companies the data for each corporation or system are desirable for purposes of comparison, and for smaller companies classifications based upon extent of business would be most useful. As the reports which utility companies now make to state bodies constitute public records, there can be little objection to the publication of detailed company figures in the census. Future census reports, therefore, might well supplement or replace state totals by a presentation along the lines of the Interstate Commerce Commission reports which give the data by systems and companies.

H. G. FRIEDMAN.

DEPRECIATION DEDUCTION HELD VOID. A recent decision of the supreme court of Idaho has an important bearing upon the much discussed subject of a depreciation allowance in valuations. It has become customary on the part of the public service commissions to make a reasonable allowance for accrued depreciation in determining the value of a public utility for rate-making purposes. The utilities, on the other hand, have denied the validity of such a deduction. They

have maintained that as long as adequate service is provided it is no concern of the public what the amount of the accrued depreciation may amount to.

In reversing the stand taken by the Public Utilities Commission of Idaho and in sustaining the contention of the utility engineers the Idaho supreme court says:

So far as the question of depreciation is concerned, we think deduction should be made only for actual, tangible depreciation, and not for theoretical depreciation, sometimes called "accrued depreciation." In other words, if it be demonstrated that the plant is in good operating condition and giving as good service as a new plant, then the question of depreciation may be entirely disregarded.

The case under discussion was that of the Pocatello Water Company, for which the commission had undertaken to fix such rates as would afford a reasonable return on the investment. In doing so, however, it made a deduction of over \$77,000 for accrued depreciation. Commissioner Ramstedt gave a dissenting opinion in which he contended that property so subject to the control of the state that it can not be withdrawn from such control must always be kept in such a condition of efficiency that its services will be satisfactory to the public. This being the case, he argued that to allow a return only upon the depreciated value of the utility would be an injustice to the investor.

Although the decision of the state supreme court in reversing the decision of the public service commission is not final, the question is one of such far-reaching consequence that the final outcome in the United States Supreme Court will be awaited with great interest.

EARL A. SALIERS.

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DECISION OF THE INTERSTATE COMMERCE COMMISSION IN RE ANTHRACITE RATES. Anthracite rates having long been the subject of complaint, the Interstate Commerce Commission in 1912 undertook a general investigation of the rates and practices governing the transportation of anthracite coal. Guided by the facts brought out in this investigation, the commission rendered a decision on July 30, 1915, declaring the present anthracite rates excessive. The case is significant because of the great weight attached by the commission to the cost of service. Conditions were held to be particularly favorable for computing the operating cost of transporting anthracite coal, as it originates in vast quantities from a comparatively small district, moves almost exclusively in car-load lots, and much of it even moves in solid

train loads. The operating cost of transportation was found to be much below the rates charged. From the standpoint of revenues, it was shown that the transportation of anthracite was exceptionally remunerative, notwithstanding the many instances wherein the anthracite carriers had dissipated their revenues in granting concessions and preferences of one kind and another to their subsidiary coal companies. The commission, therefore, ordered that anthracite rates be reduced.

Before the decision, the typical rate from the anthracite coal fields to tidewater had been \$1.60 to the upper ports, and \$1.55 to the lower ports, irrespective of the length of the haul.¹ The group system of rates thus prevailed. The rates which are to apply hereafter are \$1.45 and \$1.40, respectively, a reduction, therefore, of 15 cents a ton on the greater part of the anthracite traffic. The reduction in the rates to other than tidewater points was, as a whole, even greater. Whereas the rates under consideration by the commission had ranged from \$1.30 to \$2.00 before the decision, they now range from \$.85 to \$1.95. In the new rates due consideration has been given to the distance principle, as had not been the case previously.

The commission pointed out that the explanation of the high rates on anthracite lay in the desire of the anthracite railroads, occupying the dual and inconsistent position of public carrier and private shipper, to eliminate as a competitive factor the independent operator, whose output would otherwise compete with that mined by the subsidiary coal companies of the railroads. The frequent deficits shown by the railroad coal companies were, to the commission, proof that the freight rates had absorbed more than their fair share of the profits of the coal business. The payment by the railroads of the deficits of their coal companies and the other concessions granted to these companies in the way of free use of the carriers' funds and credit, the use of valuable property at inadequate rentals, etc., were held by the commission to be as pernicious as direct cash rebates, and in its order the commission assumed that the carriers would at once cease such discrimination. It is a striking fact—and one which gives cause for much reflection—that though twelve years have elapsed since the passage of the Elkins act, rebates in the transportation of anthracite coal still flourish.

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¹ For a detailed account, see *The Anthracite Coal Combination in the United States*, Harvard Economic Studies, vol. XI.

STATE LAWS CONCERNING FOREIGN CORPORATIONS. The great lack of uniformity in our state laws affecting corporations has long been recognized but the extent of that variation and the particulars in which one state differed from another have been ascertainable only by a laborious comparison of state statutes or by reference to a ponderous legal manual such as that edited by J. S. Parker. Consequently, the recent *Report of the Commissioner of Corporations on State Laws Concerning Foreign Corporations* (Washington, March, 1915, pp. 238) is a welcome addition to our store of systematized information upon this subject.

"The method of presenting the law adopted in this report," as described by the commissioner, "is the collation of constitutional and statutory provisions, by topics, in a systematic order which facilitates ready reference to the particular provisions in each state and a comparison of the provisions of the several states. In each case the words of the statutory or constitutional provisions are given in so far as is necessary to show the precise requirements of each state."

In part I of the report (pp. 11-168) are taken up the constitutional and statutory provisions which define the powers and duties of foreign corporations. Following the definition of foreign corporations and of "the right to do business" the report proceeds to an enumeration of the requirements for the filing of documents, such as charter, by-laws, etc., by foreign corporations desiring to do business in a state. Most commonly the filing of a copy of the state charter is called for but quite often additional information is requested and must be given if the corporation is to do business in that state. In order to bring it within the jurisdiction of the states in which it does business, the foreign corporation is usually required to appoint a resident agent or attorney in fact, upon whom process may be served. These provisions as well as those looking to a priority of the claims of domestic over foreign creditors are here collected. The restrictions upon the holding of property by foreign corporations, especially real estate, which obtain in many states, are taken up in detail; likewise, the state law respecting the power of eminent domain.

A valuable feature of the report is the data which have been gathered concerning the initial filing fees or license taxes which are found in nearly every state. These fall into two groups according to the basis upon which they are levied, either (1) according to capital invested or used in that state or (2) according to total capital stock of the corporation. Mention should also be made in this connection of the tabulated information concerning the annual license taxes which in some form or other are levied in thirty-three states.

Finally are collated the numerous provisions for annual reports, and the penal clauses for infraction or neglect of the state laws relative to foreign corporations. Concerning the latter it is said, "The penalties imposed for technical failure to comply with such prerequisites and other legal conditions are, in many instances, drastic and severe. The actual money lost by corporations due to alleged unwitting violations of the laws of the different states is undoubtedly very large."

Part II of the report (pp. 169-197) deals with the restrictions upon the power of the several states to exclude and impose conditions and restrictions upon foreign corporations seeking to do or doing business therein. A digest of the chief decisions bearing upon various rights of foreign corporations, especially those granted by the United States Constitution, is included.

The Bureau of Corporations has constantly been in favor of uniform state legislation upon corporations and has at every opportunity used its influence in furthering the movement. Also in this report, the commissioner takes occasion to recommend uniform legislation, and in the appendix is reprinted the fourth tentative draft of an act to make uniform the law of business corporations, which was prepared in August, 1914, under the direction of the commissioners on uniform laws in national conference.

H. R. TOSDAL.

The Bureau of Railway Economics, Washington, has issued a pamphlet on the *Statistics of Railways, 1904-1914, in the United States*. Tabulations are marked by clearness and convenience for use. They are based upon data furnished by the Interstate Commerce Commission and the Census Bureau.

A synopsis of the statement filed with the Interstate Commerce Commission by the Presidents' Conference Committee on *Federal Valuation of Railroads in the United States* may be had by application to Thomas W. Hulme, general secretary, 937 Commercial Trust Bldg., Philadelphia (pp. 41).

The Committee on Railway Mail Pay has printed a pamphlet entitled *What the Railway Mail Pay Problem Means to the Railroads* (W. F. Allen, secretary, 75 Church St., New York City, pp. 67).

The *Annual Report of the Department of City Transit of Philadelphia* for 1914 (pp. xxiii, 322) contains many ingenious maps illustrating the range of travel for various rates of fare.

The Public Service Commission of Massachusetts in January, 1915, made a report relative to *The Amount Invested in Street Railway and*

Elevated Lines and the Cost to the Commonwealth of Acquiring Such Lines by Eminent Domain or Otherwise (House Doc. No. 1636, pp. 46).

The *Fifth Annual Report of the Board of Public Utility Commissioners for the State of New Jersey, 1914* (Trenton, pp. 307), contains the decisions of the board during 1914. Of special interest are the decisions involving the issue of stocks and bonds and the reduction of rates. Several phases of valuation are involved.

Mr. J. A. Rockwood presented a paper before the eighth annual convention of the Northwest Electric Light and Power Association at Portland, Oregon, in September, on *Apportionment as Applied to Analyses of Cost of the Light and Power Business* (pp. 23).

The *Anti-Trust Acts of Louisiana* have been reprinted as a separate (Baton Rouge, June, 1915, pp. 38). This little pamphlet contains letters exchanged between the New Orleans and New York offices of the Sugar Trust.

Labor

Bulletin No. 167 of the United States Bureau of Labor Statistics, *Minimum-Wage Legislation in the United States and Foreign Countries* (April, 1915, pp. 335), is an historical treatment covering the experience of this country, Australia, New Zealand, Great Britain, and Germany. There is a select list of references of 7 pages.

No. 168 is entitled *Wages and Hours of Labor in the Iron and Steel Industry, 1907-1913* (April, 1915, pp. 328).

No. 169, deals with *Decisions of Courts Affecting Labor 1914* (May, 1915, pp. 346), being the third annual bulletin devoted to the subject of judicial interpretation of labor laws.

No. 171, *Union Scale of Wages and Hours of Labor, May 1, 1914* (Aug., 1915, pp. 336), covers 98 of the principal trades in 41 cities.

No. 176, *Effect of Minimum-Wage Determination in Oregon* (July, 1915, pp. 108), covers a study of the results of certain stores in March and April, 1913, and the same months in 1914, representing the periods before and subsequent to the date on which the first minimum wage determinations went into effect. It is concluded that the rates of pay for experienced women increased; for the adult inexperienced women, however, the results were not so favorable.

No. 177, *Wages and Hours of Labor in the Hosiery and Underwear Industry, 1907 to 1914* (Aug., 1915, pp. 153), is based on figures secured from the pay-rolls of 75 establishments in 14 states employing

more than 32,000 persons or 25 per cent of the total employees in the entire industry.

No. 178, *Wages and Hours of Labor in the Boot and Shoe Industry: 1907 to 1914* (Aug., 1915, pp. 89), is based upon returns from 91 establishments employing over 53,000 persons or more than one quarter of the wage-earners in the entire industry. Facts are also given in regard to the variation of employment in the industry.

Three volumes of the Report of the United States Commission on Industrial Relations have been issued. The *Final Report of the Commission on Industrial Relations* (Washington, 1915, pp. 448) contains the report of Basil M. Manley, director, which in turn may be regarded as the report of the staff of investigators. Supplementary reports of the various commissioners are also included. A second volume is entitled *The National Erectors' Association and the International Association of Bridge and Structural Ironworkers*, by Luke Grant (pp. 192). A third is the *Report on the Colorado Strike*, by George P. West (pp. 189). As far as can be learned no provision has been made for the general distribution of these documents nor does inquiry secure any information as to how they may be purchased.

The State Board of Labor and Industries of Massachusetts has issued *Manual of the Labor Laws*, a compilation of the statutes relating to labor (Boston, 1 Beacon St., June, 1915, pp. 129).

Report No. 4 of the Department of Investigation and Statistics of the Industrial Commission of Ohio compiles *Industrial Accidents in Ohio, January 1 to June 30, 1914* (pp. 324).

In the bulletin issued August 1, 1915, by the Industrial Commission of Wisconsin is an analysis of the *Industrial Accidents* for the 2½ years ending December, 1914 (pp. 52). The tabulation includes 24,000 accidents. Analyses are presented by industries, by nature, extent, and location of injury, and by cause of accident.

The issue of the *Shoe Workers' Journal* for July, 1915, publishes the proceedings of the twelfth convention of the Boot and Shoe Workers' Union, held at Buffalo, June 21-29, 1915 (pp. 133). This report is of special interest on account of the large funds for benefits collected and distributed by the union.

The following reports deal with recent phases of the problem of unemployment:

Ontario Commission on Unemployment, Interim Report, July 20, 1915 (Toronto, 1915, pp. 11). This contains proposals for reducing un-

employment through organization of the labor market. It also recommends certain forms of insurance by grants from the government of loans to voluntary associations which undertake to provide employment benefits for their members.

Report upon Unemployment in the Winter of 1914-1915 in Detroit and the Institutions and Measures of Relief (pp. 30), by Walter A. Kruesi. Copies may be obtained by addressing Mr. James Inglis, president of the American Blower Company, Detroit, Michigan.

Report on the Problem of Unemployed during the Winter of 1914-1915 in the City of Portland, Oregon, by William L. Brewster, commissioner of public affairs (pp. 18). An account is given of the expenditures of certain funds during the last winter. Special provision was made for the cutting of wood in camps operated by the city.

Report on Relief of Destitute Unemployed, 1914-1915, made to Governor Johnson by the Commission of Immigration and Housing of California (San Francisco, Underwood Bldg., pp. 24). This continues the preliminary report made December 9, 1914, and gives a summary of the various local plans carried out in the different cities of the state of California.

Money, Prices, Credit, and Banking

INDEX NUMBERS FOR RETAIL PRICES. In Bulletin No. 156, *Retail Prices 1907 to December, 1914*, the federal Bureau of Labor Statistics discontinues its unweighted-simple-arithmetic-average-of-relative-prices index number and changes radically the method of computation of its weighted number.

Before discussing the relative merits of the old and new numbers it is desirable to draw attention to the fact that all index numbers based upon arithmetic averages are weighted, either explicitly or implicitly. In the so-called unweighted form each relative price may be considered as corresponding to the actual price (in dollars or cents) of the quantity purchasable for 100 (dollars or cents) in the base year. If eggs are 40 cents a dozen and sugar 5 cents a pound in the base year, the relative prices year by year correspond to the actual prices of $2\frac{1}{2}$ dozen eggs and 20 pounds of sugar. The resulting index number equals the sum of the actual prices of these chance quantities divided by a constant. The old unweighted "simple arithmetic average" number with base 1890-1899 was of this type. Its theoretical relation to the cost of living is rather problematical.

The old weighted numbers were constructed by multiplying the relative prices for each commodity for each year by the relative im-

portance of the *expenditure* of an average family on that commodity during the year 1901, totaling, and then dividing by the total of the "relative importance" column. If the base for the original relative prices had been 1901 instead of 1890-1899, this would have constituted an index number showing the relative expenditure necessary to procure, year by year, the *quantities* of each commodity consumed by an average family in 1901. Amount consumed and actual price would be contained in the 1901 expenditure figures and each relative price would have made an adjustment in the actual price such that the resulting product would equal expenditure on that commodity in the new year. However, the fact that the old relatives for 1901 on the 1890-1899 base do not, of course, each equal 100 introduces a disturbing element and makes calculation as necessary as in the case of the unweighted number if we are to discover just what quantities of each commodity are being considered.

The new weighted number is straight forward and explicit. It pur- poses simply to be an index of the relative expenditure necessary to purchase the 1901 *quantities*. Its construction indirectly amounts to multiplying the 1901 *quantity* of each commodity by the particular year's average *actual* price. The results are added and we have (theoretically) the actual amount of money necessary to purchase the 1901 *quantities* of the 15 commodities. Any year may now, of course, be called base, made 100, and the others proportioned.

The bureau, in this connection, remarks that with the old numbers, unlike with the new number, comparisons are, strictly speaking, only permissible between a year and the base period and not between two years neither of which is a base year. This is rather misleading. The fact of the matter is that comparisons between two years (neither a base year) are as legitimate in the one case as in the other. In either case they must be interpreted.

When we find the old simple average figure (base 1890-1899) for the United States for 1905 to be 118.3, and for 1913 to be 167.0, we may correctly say that the expenditure necessary to purchase the amount of each commodity purchasable for \$100 at the average prices of 1890-1899 was, in 1913, to the expenditure necessary in 1905 as 167.0 is to 118.3. We can do no more with the new index number. The only difference is that with the new number the quantities are explicitly stated and not hidden in the base.

Of course the common and unwarranted procedure is to assume that because 1905 is 118.3 and 1913, 167.0, therefore the expenditure necessary to purchase the amount of each commodity purchasable for

\$100 at the prices of 1905 was, in 1913, to the expenditure necessary to purchase the same quantities of each commodity in 1905 as 167.0 is to 118.3.

It is the bureau's intention to shift the base to "the last completed year" in each report, 1913 being the base year in this report. The fact is, of course, that in the new number there can be no base year in the sense that there was a base period in the old numbers. The weighting in the new number is constant and does not depend upon the position of the base.

The change from relative to actual prices runs throughout the new method. The old method of arriving at the yearly relative for each commodity for each geographical division (or for the United States) was to (1) compute a relative price for the year for the commodity for each firm quoting, (2) add the relatives of each firm in a city and divide by the number of firms in the city to get the city relative, (3) add the city relatives in a geographical division (or the United States), and divide by the number of cities to get a geographical division (or United States) relative.

The new method is to add the *actual* quotations of a commodity from each firm in the geographical division (or United States) and then divide by the number of firms. This gives the average *actual* price. Relatives are then simply constructed from these actuals by proportion.

The question is again one of weighting. If the thing desired is the average price of a particular commodity in the United States, perhaps the simplest weighting would be according to population. Now, under the old system of adding city relatives, Little Rock and New York City each count one. The geographical distribution of cities might be considered as remedying this to some extent, though the possibilities along this line are small. However, while the "Western" division with a population of less than 7 million (1910) had 6 quoting cities, the "North Atlantic" with a population of over 23 million had only 11.

Under the new system the weight of each city varies directly as the number of quoting firms (as each firm counts one no matter where it be situated). However, there is comparatively little relation between city population and the number of quoting firms. In the cities of the North Atlantic division the numbers of firms quoting sirloin steak are:

Boston	6	Scranton	5
Buffalo	5	Fall River	6
Manchester	6	Newark	7
New Haven	5	New York	16
Philadelphia	11	Pittsburgh	6
Providence	6	Schenectady	8

This seems rather haphazard. Figures run about the same for the other commodities.

If the new system were attempting to get an average actual price for the commodity in all the *quoting cities* by means of adding the actual quotations of each firm, it would seem to be desirable that the number of quoting firms in each city should vary directly as the population (an easily interpretable importance criterion). If it were attempting to get an average for the *whole country* (whether in quoting cities or not), it would further seem desirable to distribute the quoting cities over the country with some reference to general population density.

The bureau seems to have distributed its cities comparatively well. Its apportionment of firms to cities (the more important consideration) seems, however, decidedly poor. If the cities are to be weighted according to the number of reporting firms (which counting each firm one, results in), it does seem as though it would be desirable to attempt to get a little greater correlation between the cities' importance and the number of reporting firms. If this is not feasible, calculate city average actuals and use population weights.

The new method is a great improvement over the old mainly because its weighting tends to be conscious and rational rather than unconscious and accidental. In this short review it has been impossible to discuss details, or even to refer to the large number of clever refinements in method explained in the bulletin.

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Bulletin No. 170 of the United States Bureau of Labor Statistics is a report on *Foreign Food Prices as Affected by the War* (May, 1915, pp. 129) and is based largely upon the data furnished by the Department of State through its consular officers. It relates to the period between August and December, 1914.

No. 173, *Index Numbers of Wholesale Prices in the United States and Foreign Countries* (July, 1915, pp. 329), contains an introductory chapter by Wesley C. Mitchell on "The making and using of index numbers." It is hoped to have in a future issue of the REVIEW a more extended notice of this bulletin.

There has been reprinted by the Department of Agriculture *Coöperative Credit Associations in Certain European Countries and Their Relation to Agricultural Interests*, a report prepared in 1892 under the direction of Edward T. Peters, at that time statistician of the depart-

ment. This treated of the German credit unions, the Raiffeisen loan associations, people's banks in Austria Hungary, and coöperative banking in Italy and in Russia (pp. 121).

Further contributions to the subject of rural credit are: *How Building Associations Solve the Rural Credit Problem*, an address delivered by K. V. Haymaker before the Kansas State League of Local Building and Loan Associations, May 12, 1915 (American Building Association News, 15 West 6th St., Cincinnati, pp. 16); and *Some Bad Rural-Credit Laws*, by Myron T. Herrick, an address delivered before the Illinois Bankers' Association at Joliet, October 14, 1915 (pp. 11).

Recent reports of bankers' associations are: *Proceedings of the Fourth Convention of the New Mexico Bankers' Association*, November, 1914 (pp. 82); and *Proceedings of the Twenty-eighth Annual Convention of the Kansas Bankers' Association*, May, 1915 (pp. 251). The latter includes an address by Mr. Thornton Cooke on "Bank acceptances; The passing of the overdraft; and Savings departments in country banks" (pp. 80-87). Mr. Haymaker's address, above referred to, is also printed in this volume (pp. 150-162).

The receipt of the following bank reports is acknowledged:

The Annual Report of the Commissioner of Banking and Insurance of New Jersey for 1914 (pp. 342).

Seventh Annual Report of the State Banking Department of Oregon, 1914 (pp. 89).

Fourth Biennial Report of the Bank Commissioner of Oklahoma, 1913-1914 (pp. 350).

The *Report of the Jewish Agricultural and Industrial Aid Society for 1914* shows that during that year 827 loans aggregating \$171,000 were made to 880 farmers occupying 323 individual farms in 19 states (New York, 174 Second Ave., pp. 67).

Public Finance

CENSUS REPORT ON WEALTH, DEBT, AND TAXATION. The report on *Wealth, Debt, and Taxation, 1913* (Washington, Department of Commerce, Bureau of the Census, 1915, pp. 886; 756) is published in two volumes and divided into eight parts: I, Estimated value of national wealth: 1850-1912; II, National and state indebtedness and funds and investments: 1870-1913; III, County and municipal indebtedness: 1913, 1902, and 1890; and sinking fund assets: 1913; IV, Taxation and revenue systems of state and local governments:

1912; V, Assessed valuation of property, and amounts and rates of levy: 1860-1912; VI, National and state revenues and expenditures: 1913 and 1903; and public properties of states; 1913; VII, County revenues and expenditures, and public properties: 1913; VIII, Municipal revenues and expenditures, and public properties: 1913.

Parts I, II, and IV have already been reviewed.¹ The present review considers the remaining parts.

In the presentation of the various topics the report follows in the main the lines of the report on *Wealth, Debt and Taxation* for 1903.² The striking facts which it brings out are the rapid growth of public revenue, expenditure and debt during the last ten years, and the great importance of the financial transactions of our cities as compared with those of our state and national governments. Taking the topics in the order in which they are presented, we find that as members of the nation we bear a per capita burden of indebtedness, less cash in the treasury, of \$10.59, as members of the individual states a per capita burden of debt, less sinking funds, of \$8.57 (ranging from nothing in Pennsylvania and West Virginia to \$22.78 in Massachusetts), and as members of counties a per capita burden of \$4.33 (ranging from nothing in Rhode Island to \$15.49 in Montana). If we live in a rural community of less than 2,500 inhabitants there is an additional burden of \$14.17 which increases to \$32.43 in communities of 2,500-8,000 (or \$172.15 if we happen to live in Anadarko, Oklahoma), to \$34.39 in communities of 8,000-30,000, and to \$74.86 in cities of 30,000 and over (ranging from \$8.01 in Springfield, Mo., to \$165.95 in New York).

The burden of national indebtedness has fortunately tended to decrease since the close of the Civil War. The rapid reduction of the debt ceased in 1891, since which time the aggregate amount has somewhat increased but the per capita debt has fallen from \$18.60 in that year to \$10.59 in 1913. From 1870 to 1909 the burden of state indebtedness has also shown a tendency to decline, the per capita debt, less sinking funds, falling from \$9.15 in the former to \$2.67 in the latter year. During the four years, 1909-1913, however, this figure increased (mainly as the result of increases in a few states) to \$8.57.

¹ See *AMERICAN ECONOMIC REVIEW*, vol. V (1915), pp. 166, 689.

² This report is frequently referred to as the report of 1903. Some of the figures in the report refer to 1909, others to 1903, as some of the figures in the present report refer to 1913 and others to 1913. The writer has followed the practice of the present report in referring to the earlier report as the report for 1903.

The per capita indebtedness of the local divisions of the states, on the other hand, has shown not only a constant tendency to increase but to increase at an accelerating rate. In 1890 the per capita indebtedness, less sinking funds, of these divisions was \$14.79; in 1902, \$20.74; and in 1913, \$35.81. All divisions of local government have shared in this increase. County indebtedness increased from \$2.51 in 1890 to \$2.80 in 1902 and to \$4.33 in 1913. The per capita figures for other divisions have unfortunately not been calculated but the aggregate net indebtedness of these divisions, exclusive of independent school districts, grew from \$744,239,610 in 1890 to \$1,387,316,976 in 1902, and to \$2,985,555,484 in 1913. The fact that in 1902 the school district debt included the debt of all districts in places of less than 8,000 population, while in 1913 the debt of districts in places of 2,500-8,000 was included in the debt of the larger division in which the district was situated, exaggerates somewhat, though not to an important extent, the increase between these dates. In the absence of per capita figures, it is impossible to compare the relative increase of the burden of debt in the various divisions smaller than the county. All that can be said is that the figures furnish no reason to conclude that the per capita indebtedness of the larger communities is increasing more rapidly than that of the smaller. Between 1902 and 1913 the increase of aggregate net debt was 112.1 per cent for places of over 30,000 population, 89.7 per cent for places with a population of 8,000-30,000, 182.8 per cent for places with a population of 2,500-8,000, and 129.2 per cent for places with a population of less than 2,500, other than school districts. The figure for places of 2,500-8,000 must, of course, be somewhat exaggerated by the change in the listing of school districts noted above. That school district debts have more than kept pace with those of other divisions is evident from the fact that while the indebtedness of such districts outside of places with 8,000 or more population was \$46,188,015 in 1902, in 1913 it was \$118,870,601 for districts outside of places with a population of 2,500 or over.

The present report on local indebtedness has introduced a distinct improvement by listing separately places with a population of 2,500-8,000 and grouping the divisions smaller than the county on the basis of population. It omits, however, a number of tables of great value contained in the earlier report, namely, those showing debt classified by purpose of issue, years of issue and maturity, and rate of interest. A comparison of the figures in the report with the statements of the financial officers of some of the larger cities reveals no substantial differences.

The section devoted to assessed value of property and amounts of tax levy presents the facts in the same form as the report for 1902, with the exception that it omits the table showing the tax rate calculated on the estimated true value of property, and adds a table showing the aggregate and per capita assessed value of property and taxes levied for each incorporated place with a population of 2,500 or over. The facts that the classifications of property follow the statutory classifications of the various states, that they are extremely general in character (real estate, personal property, and other property), and that there is no determination of the relation of assessed value to true value make it impossible to draw any but the most general conclusions. The first fact which stands out prominently is the great increase in assessed values during the period 1902-1913. Real estate increased 96.3 per cent, as compared with an increase of 39 per cent for the period 1890 to 1902. Of the different sections New England showed the smallest increase, 36.6 per cent, and the West South Central division the largest, 190.9 per cent, due mainly to an increase of 2,001.7 per cent in Oklahoma. The next largest increase was shown by the Pacific States, 179.6 per cent, followed by the Western North Central division, 123.6 per cent, largely contributed to by an increase of 642.9 per cent in Kansas. These increases, of course, reflect, in the main, the increase in the value of agricultural land shown in the census of 1910.

On the face of the figures the proportion of real estate to total property assessed has undergone practically no change since 1880. It contributed 76 per cent of the total in that year and between 74 and 75 per cent in 1890, 1902, and 1913. The accuracy of the classification of property is, however, open to question. The present report shows an increase of 62.8 per cent in personal and 257.5 per cent in "other" property (the report, vol. I, p. 721, states the increase in personal property at 97.2, but this includes "other" property with personal property). In Maryland and Idaho, however, which showed personal property assessments of \$175,658,780 and \$16,051,910 respectively in 1902, personal property is included with real estate in the present report. Pennsylvania in 1902 showed \$853,990,031 of personal property and \$134,252,446 of "other" property. The present report shows \$247,038,877 of personal property with nothing for "other" property. The report of the auditor general of Pennsylvania for 1912 (p. 742) shows an assessment of intangible personal property amounting to \$1,266,095,982. The correction of this apparent error would make a difference of 8 per cent in the total per-

sonal property assessment for the country as a whole. Minnesota, Iowa, and Rhode Island, which since 1902 have introduced the system of taxing intangible property at a low uniform rate, all show large increases in the assessment of personal property (the text calls attention to this change of system in the case of Minnesota but not in the case of the other states), but so do some other states, notably Kansas, North Dakota, West Virginia, and North Carolina.

Ad valorem taxes also increased more rapidly between 1902 and 1912 than during earlier periods, but not so rapidly as assessed valuation. The per capita assessment of ad valorem taxes in 1912 for the country as a whole was \$18.91 as compared with \$9.22 in 1902, and \$7.53 in 1890, an increase shared by all the states, but the amount per \$100 of assessed value was \$1.94 in 1912 as compared with \$2.05 in 1902 and \$1.85 in 1890. The highest per capita rate, \$23.28, was in the Pacific States, California leading with \$23.50; the lowest, \$5.95, in the South Central States. The state with the lowest rate, \$4.33, was North Carolina. Apparently the proportion of ad valorem taxes which goes to the support of schools has remained practically unchanged at 29 per cent.

In the sections devoted to revenue and expenditure a distinct step in advance is taken by including the per capita as well as the actual figures and by reducing the minimum population limit of incorporated places, separately listed, to 2,500. In 1890 the lower limit was 4,000. No investigation of municipal revenue and expenditure was made in connection with the report for 1903, which used the summaries for cities of 8,000-30,000 and 25,000 and over, taken from Bulletins 20 and 45 of the Bureau of the Census previously published. The earlier reports contain estimates for the minor divisions not treated individually. The present report does not.

The per capita revenue receipts and governmental cost payments of the various divisions of government in 1913 were: national government, \$9.82, \$9.81; states, \$8.80, \$8.95; counties, \$4.32, \$4.49; incorporated places of 30,000 population and over, \$27.78, \$31.77; places of 8,000-25,000 population, \$17.59, \$18.62; and places of 2,500-8,000 population, \$17.16, \$18.48.

The New England states (with the exception of New Hampshire), New York, Wisconsin, Minnesota, Maryland, the Mountain states (with the exception of Colorado and New Mexico), and California show high per capita expenditures for state governments, ranging from \$5.27 in Maryland to \$10.45 in Nevada or \$7.98 in California, the state with the next highest figure. The figures are low in the

Southern (\$1.46 in North Carolina and South Carolina) and in many of the Central and Western states. County expenditures are highest in the Pacific states, \$15.45 (\$20.67 in California). Next come the Mountain states, \$9.47, and Western North Central states, \$5.19. All other sections show an average below the general average for the country, the average for New England being only \$1.06.

Incorporated places are not grouped geographically, but here again California leads with \$49.74, although for places of 30,000 and over; Nebraska shows \$67.47 as compared with California's \$53.63, due to an expenditure of \$82.27 in Omaha. The other Pacific states fall little below California. With the exception of New Mexico and Vermont, which contain no places with a population in excess of 30,000, the lowest figures are found in the Southern states, ranging from \$14.15 in Alabama to \$22.38 in Florida. The very high figures of the Pacific states are due chiefly to large expenditures for outlays. With this item eliminated, New York would show the highest figure, \$28.21, as compared with \$25.72 for California. It would have been extremely helpful in the interpretation of the figures for expenditures if the report had included a column showing total expenditures less expenditures for outlays.

There is a natural inclination to make a comparison between the figures for 1913 and those of ten years earlier. The present report does this for the states only. Per capita revenue receipts of states increased from \$2.34 to \$3.80 and governmental cost payments from \$2.30 to \$3.95. This increase was shared by every state with the exception of South Carolina, where the decrease was due to the great falling off in the receipts and expenditures on account of the liquor dispensary system. The most marked change on the revenue side has been the growth in the importance of special forms of taxation. While the general property tax increased from \$1.02 to \$1.44 per capita, special property and business taxes increased from \$0.65 to \$1.25. The report gives the figures for two groups of taxes which have contributed to this result, the inheritance tax and the taxes on insurance companies. Receipts from the former are shown in 35 states as compared with 27 in 1903, and the per capita revenue from this source for the country as a whole, increased from 9 to 27 cents, or 7.1 per cent of all state revenues. In New York the yield of the tax was over 28 per cent of the total revenue of the state in 1913 and in Connecticut 20 per cent. The yield of insurance taxes increased from 8 to 18 cents per capita. It is notable, however, that notwithstanding the increase in special property and business taxes the per capita revenue from the general property tax shows a decided in-

crease in every geographical division with the exception of the Pacific states, among which California is the dominating factor. As a result of the changes in the revenue of that state during the interval between the two reports, the per capita revenue from the general property tax has declined from \$2.81 to \$0.51 cents, while the revenue from special property and business taxes has increased from \$0.28 to \$4.68. Other individual states which show a decline in the revenue from general property taxes are Ohio (\$1.31 to \$0.59), Pennsylvania (52 to 15 cents), New York (90 to 64 cents), Vermont (68 to 51 cents), Connecticut (17 cents to nothing), and West Virginia (82 to 23 cents). Delaware and Connecticut are the only states which received no income from this source. Apparently there were ten states in 1903 and eleven in 1913 in which the revenue from special property and business taxes exceeded revenue from the general property tax. The states for which this holds true for both years are Vermont, Massachusetts, Connecticut, New York, Pennsylvania, Delaware, and Minnesota. The states of which it was true in 1903 but not in 1913 are Maine, Michigan, and New Jersey. Those of which it was true in 1913 but not in 1903 are Rhode Island, West Virginia, Ohio, and California.

All of these figures and statements, however, require careful interpretation. They are affected by changes in classification, which may or may not be justifiable, but which are not noted in the text, and in some cases apparently by absolute errors in classification. The writer is utterly unable to reconcile, *e.g.*, the classification of receipts for Rhode Island with the facts as stated in the report of the state treasurer. The decline in the receipts from the general property tax in Pennsylvania is evidently due to the fact that in 1903 the total receipts from the personal property tax were included and the amount distributed to counties included among expenditures, while in 1913 the amount distributed to counties was excluded from both receipts and expenditures. The change in the condition of Michigan and New Jersey, in regard to the relative importance of the general property tax and special property and business taxes, is evidently due to the fact that in 1903 railroad taxes were included with the latter, while in 1913 they were included with the former. The text dealing with the state finances in the present report is in fact far from satisfactory. The report for 1903 specified in the text the sources of receipts from special property taxes and business taxes, thereby furnishing additional information of value and giving a clue to the classification followed in the tables. There is nothing of the sort in the present report.

On the side of expenditures the most notable change is in the item "outlays," the per capita figure for which was 3 cents in 1903 and 50 cents in 1913. It is implied in the text that this increase is due in part to a more complete separation of outlays in 1913 than in 1903, but that it is in the main real is clear from the fact that one third of the \$48,433,678 expended for outlays in 1913 was on account of canal construction in New York, for which there was no expenditure in 1903, and over one fourth was for highway construction, expenditure for which we know has greatly increased since 1903. There are other items also which it would seem must have been exceptionally large in 1913: \$1,460,902 for buildings for charities and corrections in Pennsylvania, \$1,158,209 for a like purpose and \$1,116,092 for educational buildings in Minnesota, and \$1,299,348 for educational buildings and \$1,346,174 for harbor improvement in California.

Per capita expenditures for current expenses show an increase in all departments of expenditure with the exception of health and sanitation, recreation, and public service enterprises, in the case of which they remain unchanged, and "miscellaneous" in which there is a decline from 12 to 4 cents, apparently the result of more complete classification in 1913. The divisions which show high percentages of increase are protection of person and property (8 to 26 cents) and highways (6 to 14 cents). Expenditures for general government increased from 32 to 42 cents; for interest, from 12 to 15 cents; charities and corrections, from 65 to 90 cents; and for education from \$0.80 to \$1.34. It will be noted that the last two items account for 57 per cent of all state expenditures.

The 1903 report gives neither the per capita figure for counties nor the population of the counties included in the report, but assuming that the population of counties, with independent financial organization, comprised the same percentage of the total population in 1903 as in 1913, the per capita revenue receipts of counties were \$2.79 in the former as compared with \$4.32 in the latter year, and per capita governmental cost payments \$2.77 as compared with \$4.49. There was apparently no important change in the make-up of the revenue. In 1903 the general property tax yielded 72 per cent and in 1913, 74 per cent of the total revenues. On the side of expenditures an increase for outlays (from \$0.31 to \$1.05), similar to that in the case of states, took place. It is unfortunate that while the report for 1903 gave the details of outlays by counties, but not by the states, the present report gives the details for the states but not for counties. It is impossible, therefore, to analyze this increase. Dif-

ferences in the classifications employed and lack of any definite statement in the text as to what is included under such general headings as "protection of person and property" and "charities, hospitals and corrections" make impossible also the analysis of the increase in expenditures for current expenses. From statements in connection with particular states (*e.g.*, Alabama, Indiana) it appears that expenditures for jails and registers of deeds constitute the principal elements in county expenditures for protection of person and property, although in the introduction to the financial statistics of the states, expenditures of penitentiaries are, it is stated, included with charities and corrections. Apparently, however, the increase of county expenses was pretty evenly distributed among the various items.

The 1903 report gave the financial statistics of cities of 8,000 population and over. As in the case of counties, however, it gave no per capita figures. It also drew the line between the larger and smaller cities at 25,000 population, while the present report draws it at 30,000. Using the population figures found in Census Bulletins 20 and 45, from which the report for 1903 took its figures for cities, we find the per capita revenue of cities of over 25,000 population was \$20.49 and that of cities of 8,000-25,000 population, \$13.37, while the per capita expenditure was \$22.61 and \$14.65. In 1913 the per capita revenue of cities with a population of 30,000 or over was \$27.78 and of cities with a population of 8,000-30,000, \$17.59. The per capita expenditure was \$31.77 and \$18.62 respectively. Allowing for the fact that the figures for the group with over 25,000 population apparently refer to 1902 and those for the group with 8,000-25,000 population to 1903, there seems to have been a substantially uniform rate of growth for the two groups. Here again differences in classification make comparisons in detail difficult. The most noticeable change on the revenue side of the account is the relatively rapid increase in the yield of special assessments, from \$1.26 to \$2.39 in the larger, and from \$0.81 to \$1.71 in the smaller cities. The most notable changes on the side of expenditures are the great increase of payments for interest (from \$2.06 to \$3.57 per capita) and for outlays (from \$6.27 to \$10.07 per capita) in the larger cities. No detail for outlays is given in either report.

It is impossible to state with accuracy the total per capita expenditure for all divisions of government, but the figures which we have indicate that it has increased from about \$21 to slightly over \$30 during the ten-year period, the excess in the percentage of increase, as compared with the percentage of increase of the separate divisions

discussed above, being due to the increase in the percentage of population living in the larger cities.

Appended to the tables of revenue and expenditure for each division are tables showing the value of public properties (including land and improvements, other than such as have a value in community use, but not in exchange, as highway paving, sewers, etc.) and other equipment having a life of more than one year, and in a summary table (vol. II, p. 14) these figures are combined with those contained in the section on indebtedness, showing cash on hand and securities in productive funds,* exclusive, however, of the value of the land in such funds. Public property so figured amounted, as stated in the summary table, to \$6,152,572,012. The tables in connection with the separate divisions add up, however, to \$6,158,855,561, of which \$788,893,656 represented the assets of investment and public trust funds, \$1,562,178,165 the property of public service enterprises and \$3,807,-783,740 the property of the other departments. Of the total amount, \$1,185,804,162 belonged to the states, \$586,003,475 to the counties, and \$4,387,047,924 to municipalities. The only comparable figure for 1903 is that for counties, \$493,952,518.

The editing of the report might certainly be improved. Some of its shortcomings have already been noted. The specific expenditures which make up the general classes of expenditure are not stated in connection with county and municipal expenditures. On page 11, volume II, it is stated, "The data presented for incorporated places include the transactions for school and other independent districts when they are practically coextensive with the incorporated places. . . . Certain civil divisions, such as townships, road, drainage, irrigation, and levee districts, etc., and school districts in incorporated places of less than 2500 inhabitants are not reported." This certainly gives the impression that the accounts of school districts in places of 2500 population or over are included with the figures for such places, but on page 399 of the same volume it is stated, in connection with the tables of expenditures for such places, "The payments for expenses of highways and schools do not include those made by independent road and school districts, the payments shown in these tables being only such as are made from municipal revenues." On page 282, volume I, it is stated that table IV will be found on pages 20 and 21. These pages refer to the pamphlet issue. The table is

*The statement is made (vol. II, p. 13) that these figures do not include sinking fund assets, but the figure for states includes the figure for funds and investments of states, given on p. 37 of vol. I, which is there stated to include sinking fund assets. The amount of such assets was \$76,980,571.

on pages 238 and 239. Estimates for places not covered in detail aside, the present report is more comprehensive, and probably as reliable, on the whole, as earlier reports. It also makes a more extensive use of per capita figures. There is room, however, for substantial improvement.

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Brown University.

NEBRASKA REPORT ON REVENUE AND TAXATION. A welcome addition to the numerous reports relating to taxation in the various states is made in the *Report of the Special Commission on Revenue and Taxation* (Lincoln, 1914, pp. 248) which has been submitted to the governor of Nebraska by a commission appointed in 1913. The irresponsible and unintelligent method of making appropriations is indicated and it is suggested that the governor be charged with the duty of submitting a budget to the legislature; the various taxes employed are reviewed in the light of the data available and recommendations are made in view of good principles, experience in other states, and political expediency. The report presents little if anything new to the student of taxation, but has merit in the common sense and good judgment displayed in the criticisms of suggestions offered and in the recommendations made. The best of the several chapters is that (ch. 7) relating to the separation of the sources of revenue. The discussion of this subject is the best ever seen by the reviewer in an official report.

In line with recent thought, the commission maintains that little can be accomplished without efficient administration and recommends that the elected township assessors be replaced by elected county assessors charged with making the original assessments, and that the State Board of Equalization of Assessments be replaced by a permanent state tax commission with the duties now performed by such bodies in the more advanced commonwealths. Numerous suggestions are made as to methods of improving assessments, such as the employment of experts in an advisory capacity and the classification of lands. Numerous changes in the tax laws are suggested. The commission favors an income tax, but wisely suggests that it should not be adopted until efficient and centralized administrative machinery has been developed and placed upon a firm basis. For the time being, it advocates the "graded property tax" with a 3 or 4 mill rate on intangibles (credits, franchises, etc.), and the assessment of improvements at 75 per cent of the true values, lands to be assessed at their

full value. These changes would require the adoption of amendments to the constitution then before the electors for their decision. The commission recommends that the taxation of private car companies, insurance companies, and some other corporations be made more logical and more effective, in any event. It advocates, also, the imposition of privilege taxes upon the manufacturers of and dealers in alcoholic drinks and tobaccos as a method of taxing the consumers of these non-necessaries, publicity of assessments, and the exemption from taxation of household goods to the value of \$200 for the head of each family.

H. A. MILLIS.

University of Kansas.

A further instalment of the report of the Commissioner of Corporations on the *Taxation of Corporations* has been made in *Part VI—Southern and Southwestern States* (March 15, 1915, pp. 328). It is estimated that the total taxes collected annually for purely state purposes, in the whole country, is \$300,000,000. Of this the corporations contribute about \$120,000,000.

The *Report of the Committee on the Federal Income Tax* submitted at the annual conference of the National Tax Association in San Francisco, August, 1915, has been printed as a separate (pp. 38). Copies may be had from the office of the treasurer, 15 Dey St., New York City.

William H. Lough, special agent of the Department of Commerce, has prepared as Special Agents Series No. 103 a report on *Financial Developments in South American Countries* (Washington, 1915, pp. 42). The countries covered are Argentina, Brazil, Bolivia, Chile, Peru, and Uruguay. More particularly the experience of the year 1914 and the first part of 1915 is reviewed.

The following state tax commission reports are to be noted:

The *Report of the Tax Commission of Alabama* for the year ending September 30, 1914 (pp. 136). In this are some interesting statistical maps based upon the annual report of the auditor. One of the charts shows the percentage of increase in assessments of all property of the state from 1906-1914. Another shows the increase in valuation for all the property from 1876-1914. A third shows the increase in receipts and disbursements from 1900 to 1914. Other diagrams are also included.

The *Fifth Annual Report of the Tax Commission of Ohio*, 1914 (Columbus, 1915, pp. 502).

The *Third Biennial Report of the State Tax Commission of Oregon*, 1915 (pp. 79).

A paper has been recently published by the California State Tax Association, *The Problem of High Taxes in San Francisco* (1915, pp. 120), which discusses some of the causes of waste and inefficiency in transacting the city's business.

The Government of the City of New York, Vol. VI, No. 3 (Apr., 1915) of the *Proceedings of the Academy of Political Science in the City of New York*, contains a chapter (15 pp.) on "Financial administration, budget and tax rate," by William A. Prendergast with remarks by Thomas W. Lamont and Edwin R. A. Seligman.

Demography

The Bureau of the Census has issued *Index to Occupations, Alphabetical and Classified* (Washington, 1915, pp. 414). The classification is that followed in the general tables of the *Thirteenth Census Report on Occupations* with a slight exception. It will be used by the Bureau of the Census in classifying occupations returned on death certificates so that the occupation statistics in the reports on vital statistics will be comparable with those of the *Thirteenth Census Report on Occupations*.

A special report on *The Foreign Population of Canada* has been issued by the Census and Statistics Office (Ottawa, 62 pp., 23 tables). The data are abstracted from the records of the census of 1911. It is shown that the foreign population is distributed as between hostile, allied, and neutral countries as follows: hostile, 165,775; allied, 169,729; neutral, 417,228.

Social Problems

Housing reports to be noted are as follows:

The Housing Problem in Minneapolis, a preliminary investigation made for the committee on housing of the Minneapolis Civic and Commerce Association (1915, pp. 111, illus.), deals in detail with problems of insanitation and legislation. The survey covers 96 apartments.

Report Relative to the Construction, Alteration and Maintenance of Buildings (Boston, H. Doc. 1750, Feb., 1915, pp. 160), made by the Massachusetts commission to investigate building laws, contains, in

addition to 20 pages of text, the full suggestion for "an act relating to the construction, alteration, and maintenance of buildings throughout the commonwealth." Sections dealing with construction and materials are especially well drawn.

Advisory Pamphlet on Camp Sanitation and Housing (July, 1914, pp. 54) and *Advisory Pamphlet to Employers* (pp. 7, illus.) are published by the Commission of Immigration and Housing of California (San Francisco). The first pamphlet gives advice to owners of labor camps as to location and lay-out of camps, water supply, tents, toilets, disposal of refuse, reduction of fly and mosquito nuisance, etc. The second sets forth the state requirements as to labor camp sanitation.

Eleventh Report of the Board of Tenement House Supervision of New Jersey (Paterson, 1915, pp. 106).

Housing Laws. A Summary of the More Important Provisions in City and State Codes (1914, pp. 127) has been prepared for the Housing Committee of the Minneapolis Civic and Commerce Association. Provisions of housing laws of 20 cities and 10 states, together with Mr. Veiller's model housing law, are grouped under the main headings: I, Definitions; II, Fire provisions; III, Light and ventilation; IV, Sanitary provisions; V, Requirements and remedies. Each heading is subdivided in the usual manner. No comments are offered; a very useful handbook of housing legislation.

Classified Selected List of References on City Planning (Boston, National Conference on City Planning, 1915, pp. 48) is a carefully classified collection of titles in English, French, and German. Among the subtopics the following of interest to economists are included: housing, markets and food supply, land values, taxation, municipal finances, business and industrial districts, traffic data, railroads, and land subdivision.

Houses for Mining Towns, by Joseph H. White (Washington, Bureau of Mines Bull. 87, 1914, pp. 64, illus.), submits detailed suggestions for construction of houses in mining villages.

Right Methods in a Housing Bureau, by Robert E. Todd (Detroit Housing Association, Jan., 1915, pp. 16, illus.), is a technical treatment of methods of preparing and filing records in a housing bureau.

The Second Annual Report of the Homestead Commission of Massachusetts (1914, pp. 144) contains a list of improved housing companies in the different parts of the United States.

JAMES FORD.

Insurance and Pensions

The Insurance Society of New York has added to its list of pamphlet publications: *Non-liability Matter*, by William B. Ellison (pp. 26);

Adjustment of Stock Losses, by D. C. Brown (pp. 12); *Increase of Hazard*, by Hartwell Cabell (pp. 23); *Mortgagee Clause*, by Leo Levy (pp. 14); and *The Adjustment of Building Losses*, by W. R. Freeman (pp. 21).

In April, 1915, a committee was appointed by the National Convention of Insurance Commissioners to coöperate with the Actuarial Society of America in the construction of a new mortality table. A report on a tentative plan has been printed (Aug. 25, 1915, pp. 15). Reprints may be obtained from the Superintendent of Insurance, Albany, N. Y.

Other insurance pamphlets to be noted are: *Wherein Have Insurance Conditions Improved during the Past Twenty Years in the Field of Life Insurance*, by Henry D. Appleton, deputy superintendent of insurance of New York, an address delivered before the National Convention of Insurance Commissioners, September 21, 1915 (pp. 21); *Supervision and Regulation of Fire Insurance Rates and Rate-Making*, by Jesse S. Phillips, superintendent of insurance of New York, also delivered before the National Convention of Insurance Commissioners (pp. 5); *Sickness Insurance*, prepared for the Committee on Social and Industrial Justice of the Progressive National Service (95 Madison Ave., New York, pp. 60); and, also published by the Progressive National Service, *Unemployment Insurance* (pp. 21), by Katharine Coman, and *Standards of Workmen's Compensation with Annotations* (pp. 61).

The Industrial Accident Board of Massachusetts has published volume II of its *Reports of Cases under the Workmen's Compensation Act* including the experience between July 1, 1913, to June 30, 1914 (Boston, pp. 894).

The *Annual Report of the State Workmen's Compensation Commission* of New York (Albany, 1915, pp. 151) contains some 30 pages in regard to the formulas for present value of death benefits.

A *Report on Old Age Relief* has been prepared by the Industrial Commission of Wisconsin (Madison, Mar. 1, 1915, pp. 76). Among the topics are: "The problem of old age dependence," "Methods of old age relief," "The condition of the aged in Wisconsin," and "Foreign systems of old age relief." This commission has also issued a pamphlet on *Workmen's Compensation Insurance* (June 1, 1915, pp. 47).

PERIODICALS

The REVIEW is indebted to Robert F. Foerster for abstracts of articles in Italian periodicals, and to R. S. Saby for abstracts of articles in Danish and Swedish periodicals.

Theory

(Abstracts by W. M. Adriance)

ANDERSON, B. M. *The concept of value further considered.* Quart. Journ. Econ., Aug., 1915. Pp. 35.

The writer parries the suggestion of Professor J. M. Clark that it is really immaterial whether value be thought of as relative or as absolute, and defends his own well-known view that value is an absolute thing.

CLARK, J. M. *The concept of value: a rejoinder.* Quart. Journ. Econ., Aug., 1915. Pp. 14.

A frank agreement with Professor Anderson's most essential ideas of social value, and a further plea for a tolerant setting aside of the question as to whether value is relative or absolute.

CLARK, J. M. *The concept of value.* Quart. Journ. Econ., Aug., 1915. Pp. 11.

An attempt at reconciliation. "Is value a mere relation between goods and derived from the fact of exchange, or a quantitative thing which precedes exchange and is merely measured by it?" The answer given is that the issue is not really vital and need not be fought out.

GRAZIANI, A. *Guglielmo Lexis ed Eugenio von Böhm-Bawerk.* Rif. Soc., Apr.-May, 1915. Pp. 5.

HAMILTON, W. H. *Economic theory and "social reform."* Journ. Pol. Econ., June, 1915. Pp. 23.

A review of J. A. Hobson's book *Work and Wealth: A Human Valuation.* More than an ordinary review, however, as it attains the dimensions of an essay.

DU MAROUSSEM, P. *L'école monographique et la science économique.* Réf. Soc., May 1, 1915. Pp. 10.

An elementary discussion of "value,"—apparently intended as a refutation of the labor theory of value.

PATTERSON, E. M. *The theories advanced in explanation of economic crises.* Ann. Am. Acad., May, 1915. Pp. 15.

A brief and readable summary of various theories of economic crises, the recent work of W. C. Mitchell and H. L. Moore being especially noticed. A valuable summary for use with undergraduate classes.

VON PHILIPPovich. *Dr. Eugen von Böhm-Bawerk.* Zeitschr. f. Volkswirts., XXIII, 5-6, 1914. Pp. 15.

The official notification to the readers of his "Zeitschrift" of the death of the eminent scholar and editor.

SCHUMPETER, J. *Das wissenschaftliche Lebenswerk Eugen von Böhm-Bawerk.* Zeitschr. f. Volkswirts., XXIII, 5-6, 1914. Pp. 75.

A keenly sympathetic summary and appreciation written by a pupil and colleague.

STAMP, J. C. *The meaning of "unearned income."* Econ. Journ., June, 1915. Pp. 10.

A consideration of various meanings of the term with reference to English taxing policy.

WATKINS, G. P. *A third factor in the variation of productivity: the load factor.* Am. Econ. Rev., Dec., 1915. Pp. 34.

WRIGHT, P. G. *Moore's economic cycles.* Quart. Journ. Econ., May, 1915. Pp. 11.

A mathematical review of a mathematical book. Expresses admiration for the author's pioneer work in statistical induction, but regards the book as on the whole "falling short of conclusiveness."

Economic History (United States)

(Abstracts by E. L. Bogart)

BROWNE, B. F. *Youthful recollections of Salem.* Hist. Coll. Essex Inst., Oct., 1915. Pp. 7.

Contains some items of economic interest, for the first decade of the nineteenth century.

BRIGGS, J. E. *The grasshopper plagues in Iowa.* Iowa Journ. Hist. & Pol., July, 1915. Pp. 43.

Covers the decade 1867-1877.

CHAPMAN, E. E. *The Alta California supply ships, 1773-76.* Southwest Hist. Quart., Oct., 1915. Pp. 11.

Methods by which food supplies were sent to the early colonists.

CLEMENT, MRS. N. E. *Tithables of Pittsylvania County, 1767.* Va. Mag. Hist. & Biog., Oct., 1915. Pp. 10.

HUNTINGTON, C. C. *A history of banking and currency in Ohio before the Civil War.* Ohio Archaeol. & Hist. Quart., July, 1915. Pp. 304.

A detailed account, based upon original sources.

MACARTNEY, C. E. *The passing of the Harmonites. A story of a successful communistic venture.* Penn. Mag. Hist. & Biog., July, 1915. Pp. 8.

SPENCER, C. W. *Sectional aspects of New York provincial politics.* Pol. Sci. Quart., Sept., 1915. Pp. 28.

A valuable account of the struggles between New York City and "up-state" from 1690 to 1760, largely with regard to financial and commercial legislation.

NYE, B. H. *Extracts from the letters of a Nantucket forty-niner.* Hist. Teacher's Mag., Sept., 1915. Pp. 2.

Description of conditions in the California gold-fields.

VAN DER ZEE, J. *The neutral ground.* Iowa Journ. Hist. & Pol., July, 1915. Pp. 38.

An account of the treatment of the Winnebago Indians from 1830 to 1848.

WEIK, J. W. *An unpublished chapter in the early history of Chicago*. Journ. Ill. State Hist. Soc., Jan., 1915. Pp. 20.

An account of James M. Bucklin, first engineer of the Illinois and Michigan canal.

Is civilization determined by climate? William & Mary Quart., July, 1915. Pp. 2.

An answer to the suggestion that the civilization of the Southern States of the Union is inferior because of their climate.

Virginia in 1677-1678. Va. Mag. Hist. & Biog., Oct., 1915. Pp. 9.

Reports of documents, chiefly financial.

Economic History, Foreign

(Abstracts by Clive Day)

BACHI, R. *L'Italia economica nel 1914*. Rif. Soc. Sup., June-July, 1915. Pp. 314.

The sixth annual review of Italian commercial, industrial, agricultural, banking and financial conditions and problems with a bibliography of the year's output; well done and useful, like its predecessors.

CLAPHAM, J. H. *Some factory statistics of 1815-16*. Econ. Journ., Sept., 1915. Pp. 4.

A first-grade cotton mill averaged 200 or 300 workers.

d'EICHTHAL, E. *Après douze mois de guerre. Coup d'oeil sur la situation économique en France*. Rev. Sci. Pol., Aug., 1915. Pp. 13.

EINAUDI, L. *Guerre ed economia*. Rif. Soc., June-July, 1915. Pp. 30.

Wars and economics in general, with a particular discussion of the present war in relation to public and private economic problems.

GIBSON, A. H. *Some economic effects of the war*. Bankers' Mag. (London), July, 1915. Pp. 17.

HERLT, G. *Folgen des Krieges für das wirtschaftliche und finanzielle Leben der Türkei*. Weltwirts. Archiv, July, 1915. Pp. 18.

Present and future.

HILDEBRAND, K. *Hollands ekonomiska organisation under kriget*. Ek. Tids., No. 6, 1915. Pp. 19.

Describes the economic reorganization of Holland to meet the special difficulties arising because of her nearness to the belligerents.

HOOPER, W. *The Tudor sumptuary laws*. Eng. Hist. Rev., July, 1915. Pp. 16.

LEONHARD, R. *Flurgemeinschaft und Feudalität*. Jahrb. f. Gesetzgebung, No. 2, 1915. Pp. 47.

Discussion of communal land tenures.

MACDONALD, J. H. A. (LORD KINSGURGH). *Power traction in peace and war: a historical sketch*. Scot. Hist. Rev., July, 1915. Pp. 20.

Devoted mostly to the period since 1900.

MILLER, W. *The Genoese in Chios, 1346-1566.* Eng. Hist. Rev., July, 1915. Pp. 14.

The Maona and Giustiniani, a romantic chapter in the history of commerce.

NEUBAUER, T. *Wirtschaftsleben im mittelalterlichen Erfurt.* I. Vierteljahrhschr. f. Soz. u. Wirtschaftsgesch., No. 4, 1914. Pp. 27.

Covers agriculture, industry, and guilds.

NICHOLSON, J. S. *A chapter in the life of John Law.* Econ. Journ., Sept., 1915. Pp. 5.

Law's project of a bank at Turin, from Prato's memoir.

PEYTON, S. A. *The village population in the Tudor lay subsidy rolls.* Eng. Hist. Rev., Apr., 1915. Pp. 16.

Shows great mobility of the population, with a rapid disappearance even of freeholding families.

PICK, F. *Zur Geschichte der böhmischen Industrie in der Neuzeit.* Vierteljahrhschr. f. Soz. u. Wirtschaftsgesch., No. 4, 1914. Pp. 18.

A savage criticism of the recent book by Salz.

PUTNAM, B. H. *Maximum wage laws for priests after the Black Death, 1348-1381.* Am. Hist. Rev., Oct., 1915. Pp. 21.

RAFFALOVICH, A. *La guerre et l'industrie allemande en 1914-1915.* Journ. des Econ., July, 1915. Pp. 20.

Contains excellent concrete material from a German source.

RICCI, U. *Confronti fra medie.* Giorn. d. Econ., July, 1915. Pp. 29.

SCHLESINGER, K. *Methodologische Vorbemerkungen zu einer Geschichte der zentraleuropäischen Kriegswirtschaft.* Weltwirts. Archiv, July, 1915. Pp. 20.

SCHMOLLER, G. *Der Weltkrieg und die deutsche Sozialdemokratie.* Schmollers Jahrb., 39, 3, 1915. Pp. 12.

Survey of the past and forecast of the future of the Social Democracy, with little on the exact topic of the title.

SIGWART, G. *Die Fruchtbarkeit des Bodens als historischer Faktor.* Jahrb. f. Gesetzgebung, No. 1, 1915. Pp. 29.

SMITH, A. P. *The economic position of the Eurasian.* Wealth of India, July, 1915. Pp. 2.

WESTERMANN, A. *Zur Geschichte der Memminger Weberzunft und ihre Erzeugnisse im 15. und 16. Jahrhundert.* II. Vierteljahrhschr. f. Soz. u. Wirtschaftsgesch., No. 4, 1914. Pp. 25.

Concluding part; cf. p. 190 of this REVIEW.

WESTERMANN, W. L. *The economic basis of the decline of ancient culture.* Am. Hist. Rev., July, 1915. Pp. 20.

A thoughtful article, criticizing traditional views and emphasizing the effects of the loss of economic freedom.

Commerce

(Abstracts by M. T. Copeland)

ALASIA, E. *L'economia italiana di fronte alla chiusura del mercato germanico.* Giorn. d. Econ., Aug. 15, 1915. Pp. 27.

Italian trade with Germany compared with Italian trade with other European countries; the comparison is made with reference to the kinds of commodities involved.

ARNOLD, J. H. *American trade in China: what are its chances?* Nation's Business, Sept. 15, 1915. Pp. 2.

Considers opportunity especially favorable.

BELLET, D. *Le commerce allemand et les raisons de son développement.* Rev. Sci. Pol., Aug., 1915. Pp. 27.

Mastery of the art of selling most important.

BELLET, D. *L'industrie des matières colorantes en Allemagne . . . et ailleurs.* Journ. des Econ., July, 1915.

German dye-stuff industry exemplifies economies of specialization and large-scale production.

BISHOP, A. L. *The war and the world's trade.* Bull. Am. Geog. Soc., Sept., 1915. Pp. 9.

Effects of war on American commerce not as predicted.

BOGGS, T. H. *Capital investments and trade balances within the British Empire.* Quart. Journ. Econ., Aug., 1915. Pp. 16.

Estimates of invisible exports and imports of British India and Canada.

BONN, M. J. *Commercial isolation versus international trade.* Ann. Am. Acad., Sept., 1915. Pp. 6.

Freedom of the sea essential for development of international trade.

CARREL, M. D. *Rosario, port of a great future trade.* Americas, Sept., 1915. Pp. 6.

Description of facilities.

COREA, L. F. *The relations of Central and South America with the United States as affected by the European war.* Ann. Am. Acad., Sept., 1915. Pp. 5.

General political, commercial, and intellectual relations.

ENGLAND, M. T. *Promotion as the cause of crises.* Quart. Journ. Econ., Aug., 1915. Pp. 20.

Promotion activity causes rising prosperity and sets in operation forces which bring about a crisis.

FOLKMAR, D. *The effect of the European war on America's trade with India.* Ann. Am. Acad., July, 1915. Pp. 13.

Great opportunity for trade with India.

HENDERSON, G. *Economics of American shipping.* New Republic, Oct. 2, 1915. Pp. 2.

As long as vessel's nationality is basis of jurisdiction, only a laissez-faire policy is possible.

HENDERSON, G. *The Seaman's law and world wages.* New Republic, Oct. 9, 1915. Pp. 2.

Law has desirable object but is only a make-shift.

HUEBNER, G. G. *Economic aspects of the Panama Canal.* Am. Econ. Rev., Dec., 1915. Pp. 14.

JOHNSTON, F. *American export policies.* Ann. Am. Acad., Sept., 1915. Pp. 9. Methods of handling export trade with South America.

KIES, W. S. *Coöperation in export trade.* Ann. Am. Acad., July, 1915. Pp. 13. Proposes scheme for "export corporations."

LUKÁCS, G. *Internationale Fragen der Handelspolitik.* Blätter f. vergleich. Rechtswis., Apr.-June, 1915. Pp. 5.

Problems arising from conflict of international trade interests.

MUCHNIC, C. M. *What can the United States and Latin America do for each other?* Ann. Am. Acad., Sept., 1915. Pp. 10.

Obstacles to development of trade with South America.

PARKER, W. *New Orleans, the gateway of the Mississippi.* Nation's Business, July 15, 1915. P. 1.

New system of port facilities.

PAYEN, E. *Le coton: sa production et sa consommation.* L'Econ. Franç., Aug. 28, 1915. Pp. 2.

Review of world's cotton trade.

PAYEN, E. *Le cuir: son marché avant et depuis la guerre.* L'Econ. Franç., Sept. 4, 1915. Pp. 2.

Scarcity and high prices.

PAYEN, E. *L'expansion du commerce français à l'extérieur.* L'Econ. Franç., Sept. 11, 1915. Pp. 2.

French efforts to capture foreign markets of Germans and Austrians; obstacles encountered.

PRATT, E. E. *Trade conditions in Latin America as affected by the European war.* Ann. Am. Acad., July, 1915. Pp. 26.

Full statement of facts concerning effects of war on Latin-American trade.

PUDOR, H. *Volkswirtschaftliche Werte der Qualitätsindustrie.* Schmollers Jahrb., 39, 3, 1915. Pp. 27.

Reasons why German manufacturers should strive to establish "made in Germany" as a mark of highest quality.

REDFIELD, W. C. *America's international trade as affected by the European war.* Ann. Am. Acad., July, 1915. Pp. 16.

General observations.

RING, W. *Transportation facilities needed for Latin American trade.* Ann. Am. Acad., Sept., 1915. Pp. 5.

For patriotic reasons increase in American merchant marine is desired.

ROSENBAUM, S. *The effects of the war on the overseas trade of the United Kingdom.* (With discussion.) Journ. Royal Stat. Soc., July, 1915. Pp. 54.

By means of index numbers actual trade since August, 1914, is compared with trade which might have been "expected" in time of peace.

WEHRMANN. *Die Bedeutung von Friedrich List für den deutsche Verkehr.* Archiv f. Eisenbahnw., Sept.-Oct., 1915. Pp. 18.

The teachings of List in their bearing on present and future commercial conditions.

WYGODZINSKI. *Kriegsverletzenfürsorge und Kleinhandel.* Soz. Praxis, July 22, 1915. Pp. 2.

Excellent statement of reasons why cripples and widows should be discouraged from seeking employment in retail trade.

ZNAMIECKI, A. *The appointment of agents for Russia.* Americas, Aug., 1915. Pp. 5.

Advantages and disadvantages of agency plan.

ZNAMIECKI, A. *The way of entering the Russian market.* Americas, July, 1915. Pp. 5.

Suggestions for prospective exporters.

VON ZWIEDINECK, O. *Die handelspolitischen Beziehungen Serbiens zu Oesterreich-Ungarn.* Weltwirts. Archiv, July, 1915. Pp. 35.

British and French trade. Bankers' Mag. (London), Aug., 1915. Pp. 5.

Reasons for French regulation of gold exports.

British India: as a market for American goods. Nation's Business, Sept. 15, 1915. Pp. 2.

Abstract from report of former Consul Henry D. Baker.

Has the war shifted the trade of the world? Americas, Aug., 1915. Pp. 4.

American commerce has shown promising progress but ultimate results still uncertain.

The opportunities for greatly increasing our trade relations with Spain are at hand. Journ. Phila. Chamber of Commerce, Aug., 1915. Pp. 2.

General statements concerning Spanish commerce.

The record of a tangled trade year. Annalist, Sept. 20, 1915. Pp. 2.

Detailed comparisons of export and import statistics of United States.

The Seamen's act and its possible effects. Nation's Business, July 15, 1915.

Analysis of act; views of prominent shipowners.

Railways

(Abstracts by Julius H. Parmelee)

ACWORTH, W. M. *Professor Ripley on American railroads.* Econ. Journ., Sept., 1915. Pp. 8.

Review of W. Z. Ripley's *Railroads: Finance and Organization.*

ALLIX, G. *La mobilisation des chemins de fer Italiens.* Journ. des Transports, July 3, 1915. Pp. 2.

Details of Italian mobilisation arrangements and operations, beginning April 15, 1915.

ALLIX, G. *Les résultats de 1914.* III. Réseau P-L-M. IV. Réseau du Midi. V. Réseau du Nord. Journ. des Transports, May 8, 29, July 17, 1915. Pp. 6, 4, 3.

Additional analyses of French railway operations during 1914.

ALLIX, G. *Les résultats de 1914. Le Métropolitain de Paris.* Journ. des Transports, July 3, 1915. Pp. 5.

BASFORD, G. M. *Training of young men with reference to promotion.* Ry. Age Gaz., July 23, 1915. Pp. 4.

The training problem as a study in railway efficiency.

BELNAP, H. W. *Hon. Edward A. Moseley.* Railroad Trainman, July, 1915. Pp. 7.

Eulogy of the late secretary of the Interstate Commerce Commission as a pioneer in the field of railway safety.

BOARDMAN, G. G. *Real railroad relief requires restoration of rates.* Ry. Wld., June, 1915. Pp. 2.

Emphasizes the word "restoration."

BOURNE, J. JR. *Evils of government ownership.* Aera, Oct., 1915. Pp. 7.

Dealing largely with public utilities, holds that centralization of political power destroys individual initiative.

BOYLE, G. P. *Railroad control of private cars.* Traffic Wld., July 10, 1915.

Recent decision of Interstate Commerce Commission in Pennsylvania Paraffine Works case removes from shippers who own rolling stock all control thereof as soon as tendered to a carrier under load.

BUELL, D. C. *The library as an efficiency tool.* Special Libraries, June, 1915. Pp. 4.

Largely a description by its director of the Railway Educational Bureau, maintained by the Union Pacific and other lines.

BUREAU OF RAILWAY ECONOMICS. *List of references on locomotive mechanical stokers.* Locomotive Firemen & Engineer's Mag., Sept., 1915. Pp. 6.

BUREAU OF RAILWAY ECONOMICS. *Statistics of railways, 1904-1914, United States.* Bull. No. 81, Sept., 1915. Pp. 67.

A ten-year summary of significant railway statistics, averages, and ratios.

CAMP, E. W. *The railroad and the hobo.* Ry. Rev., Sept. 25, 1915.

CLARK, E. E. *Address before National Industrial Traffic League, Sept. 10, 1915.* Pro. Nat. Indus. Traffic League. Pp. 7.

Discussion, by a member of the Interstate Commerce Commission, of the general principles of railway regulation.

CUSHING, W. C. *The development of special steels for track work.* Ry. Age Gaz., Oct. 22, 1915. Pp. 5.

DEWSNUP, E. R. *Railway rate theory and practice.* Pol. Sci. Quart., Sept., 1915. Pp. 34.

Analytical review of W. Z. Ripley's *Railroads: Finance and Organization*.

DOW, M. A. *Safety and short trains*. Ry. Wld., July, 1915. Pp. 6.

Argues that the passage of so-called "short-train" or "train-limit" laws increases rather than decreases risk.

EDWARDS, W. H. *Die Einfluss der Frachtkosten auf die Preise der Massengüter*. Archiv f. Eisenbahnw., Mar.-Apr., May-June, July-Aug., Sept.-Oct., 1915. Pp. 42, 49, 49, 65.

The relation of freight rates (water and rail) to commodity prices, taking French conditions as representative. A series of four lengthy papers, with bibliography.

ELLIOTT, H. *The railroads as a factor in our national life*. Ry. Age Gaz., July 16, 1915. Pp. 2.

Importance of the railway problem measured by number of employees, number of stock and bond holders, and the legislative and regulative questions involved.

EMERSON, H. *Analysis of dependent sequence as a guide to fuel economy*. Ry. Rev., July 3, 1915. Pp. 5.

Analysis of 58 factors affecting the efficient utilization of fuel.

FISHER, W. L. *Waterways: their place in our transportation system*. Journ. Pol. Econ., July, 1915. Pp. 22.

Generally speaking, railways have the advantage of artificial (and in some cases natural) waterways, both as to efficiency and cost.

FREEMAN, L. R. *The railway lines of Syria and Palestine*. Ry. Age Gaz., July 30, 1915. Pp. 5.

Illustrated article.

GARDNER, H. *Railroad locomotive repair shop organization*. Ry. Age Gaz., Oct. 15, 1915. Pp. 3.

Diagrams and formulas for increasing efficiency and output.

GRAY, E. H. *African railway systems*. South African Railways & Harbors Mag., July, 1915. Pp. 4.

Suggestions for standardization of African railways, as to ownership and control, gauge, etc.

HAINES, C. C. *Our railroads and national defense*. N. Am. Rev., Sept., 1915. Pp. 10.

Proposes the establishment of a Railroad Bureau of National Defense.

HALSEY, F. M. *Railway expansion in Central America*. III. *Guatemala and Honduras*. Moody's Mag., July, 1915. Pp. 2.

HANEY, L. H. *Depreciation and valuation for rate-making*. Journ. Account., May, 1915. Pp. 8.

HIATT, W. S. *How French hospital trains help save the wounded*. Ry. Age Gaz., Oct. 8, 1915. Pp. 4.

Illustrated description of various hospital train devices.

HILL, J. W. *The people and the railroads.* Com. & Finan. Chronicle, American Bankers' Convention Section, Sept. 18, 1915. Pp. 5.

HIMMELBERGER, C. M. *The freight terminal.* Pro. N. Y. Railroad Club, Sept. 17, 1915. Pp. 9.

HUTCHINS, F. L. *The greatest present need of railroads.* Ry. Rev., Aug. 7, 1915. Pp. 3.

The value of exact performance records competently arranged.

JARVIS, W. H. and PIPER, F. S. S. *British railway returns, 1914: Effect of government control.* Ry. News (London), Sept. 11, 1915. Pp. 2.

The authors are somewhat inconclusive in their findings.

LINDENTHAL, G. *Qualities of good rails.* Pro. N. Y. Railroad Club, May 21, 1915. Pp. 17.

A technical discussion.

MARSH, A. R. *The perpetual railroad rate problem.* Econ. Wld., July 10, 1915. Pp. 3.

Emphasis on the economic principles of marginal cost of production and marginal return.

MARVIN, W. L. *The first year at Panama.* Rev. Rev., Sept., 1915. Pp. 4.

MONEY, L. G. C. *British railroads in the great war.* Metropolitan, Oct., 1915. Pp. 3.

The war organization of the British railways.

MOODY, J. *The Wabash reorganization.* Moody's Mag., Aug., 1915. P. 1.

MOULTON, H. G. *The cost of the Erie barge canal.* Journ. Pol. Econ., May, 1915. Pp. 11.

Cost greatly in advance of original estimate and expectation; final cost will probably average \$340,000 per mile (Buffalo to New York City) as compared with average railway capitalization of \$60,000 per mile.

NATIONAL CIVIC FEDERATION. *Shall the government own and operate the railroads, the telegraph and telephone systems? Shall the municipalities own their utilities?* 1915. Pp. 119.

Symposium of papers answering the questions negatively.

PAYEN, E. *Les grandes compagnies françaises de chemins de fer en 1914.* I. *Les recettes brutes.* II. *Les dépenses et le produit net.* L'Econ. Franç., July 24, Aug. 7, 1915. Pp. 3, 3.

Gross revenues of the French railways decreased about a fifth, while net revenue fell off nearly one half.

PESCHAUD, M. *Le relèvement des tarifs des chemins de fer aux Etats-Unis.* Rev. Pol. & Parl., July 10, 1915. Pp. 23.

Historical analysis of recent rate cases in the United States. Concludes that our system of railway regulation shows the "costly irresponsibility of the State."

PINCHOT, A. *The biggest thing between you and prosperity.* Pearson's Mag., Sept., 1915. Pp. 16.

Advocates the federalization of American railways in order to "free the public from trust robbery."

POWELL, T. C. *The railway and the automobile.* Traffic Wld., Sept. 25, 1915.

Estimates the automobile passenger-miles per year at twenty billions; the effect on railway passenger business is clear.

ROBERTS, S. W. *The qualifications of a terminal superintendent.* Ry. Age Gaz., Sept. 3, 1915. Pp. 2.

ROEGIND, S. *Kjöbenhavns Sporveic gjennem 50 aar.* Nat ök. Tids., Mar.-Apr., 1915. Pp. 52.

A study of the street railroad industry in Copenhagen during the last 50 years.

ROGERS, L. *The power of the states over commodities excluded by Congress from interstate commerce.* Yale Law Journ., May, 1915. Pp. 6.

Effect of Montana supreme court decision in *State v. Harper*, practically establishing the principle that when Congress has prohibited certain subjects of interstate commerce (such as liquor or white slaves), the states are powerless to legislate thereon, even if federal and state laws are designed to act concurrently.

ROEBLING. *Die Beilegung von Arbeitsstreitigkeiten im Eisenbahnbetriebe der Vereinigten Staaten von Amerika.* Archiv f. Eisenbahnw., May-June, 1915. Pp. 8.

Enactment and working of Newlands mediation and arbitration act of 1913.

SALOMON, J. *Die Warschau-Wiener Eisenbahn und ihre Verstaatlichung.* Archiv f. Eisenbahnw., Sept.-Oct., 1914, Jan.-Feb., Mar.-Apr., 1915. Pp. 25, 18, 23.

Series, with map, describing the history and nationalization of one of the oldest (and recently important, from a strategic point of view) Russian steam railways.

SEAVIER, W. G. *Railroading under Diaz.* I. Railroad Man's Mag., Oct., 1915. Pp. 18.

Engineering and operating problems of railway men in Mexico.

SEYDEL. *Wohlfahrteinrichtungen der preussisch-hessischen Eisenbahngemeinschaft im Jahre 1913.* Archiv. f. Eisenbahnw., Jan.-Feb., 1915. Pp. 56.

Statistics of welfare work on the Prussian-Hessian state system—pension, sickness, accident, and other benefits.

SPROULE, W. *The public influence of the railroad superintendent.* Ry. Rev., Oct. 2, 1915. Pp. 2.

SPROULE, W. *The railroads and the people.* Ry. & Marine News, Oct., 1915.

STROUB, C. F. *Proposed bureau for clearing car repair accounts.* Ry. Age Gaz., July 23, 1915. Pp. 2.

STUCKI, A. *Notes on transportation in Europe.* Ry. Age Gaz., July 30, 1915.

SUMMER, E. E. *Government railroad line construction in Alaska.* Ry. & Marine News, July, 1915. Pp. 4.

Progress in connection with Alaskan government railway.

TECKLENBURG, K. *Personen- und Güterverkehr Selbstkosten und Ertag.* Archiv f. Eisenbahnw., Mar.-Apr., 1915. Pp. 30.
Analysis of freight and passenger costs, with a view to accurate allocation.

THIESS, F. *Finnland and seine Eisenbahnen.* Archiv f. Eisenbahnw., Sept.-Oct., 1915. Pp. 17.

THOM, A. P. "A right of the states" which is often overlooked. Ry. Age Gaz., July 9, 1915. Pp. 5.
The right of each state to be protected by the federal government from the unfair and burdensome regulation of its commerce by another state.

VILLARD, O. G. *The value of publicity for railways.* Ry. Gaz. (London), Sept. 3, 1915. P. 1.

WASHINGTON, C. *Romance of "tickets, please."* Railroad Man's Mag., Oct., 1915. Pp. 8.
Evolution of the passenger ticket system on the American railways.

WILE, F. W. *Great achievements of German state railroad lines.* Ry. Age Gaz., Sept. 3, 1915. Pp. 3.
Largely a translation of an official narrative by the German general staff, entitled "The Railway War."

WILLARD, D. *Safety—Above everything else among the ends to be sought in the operation of a railroad.* Baltimore & Ohio Employees Mag., July, 1915. Pp. 4.
A vivid personal appeal to the employees of the Baltimore and Ohio, by their president.

WOOTAN, J. B. *General prosperity demands relief for railroads.* Pub. Serv., Sept., 1915. Pp. 3.

WRIGHT, R. V. *How do you select and promote your men?* Ry. Age Gaz., Aug. 6, 1915. Pp. 3.
Suggests a scheme of recording the personality and performance of railway employees.

WYMAN, B. *The rise of the Interstate Commerce Commission.* Yale Law Journ., May, 1915. Pp. 15.
The legal and legislative history of railway regulation in the United States.

ZIMMERMANN, A. *Die Beförderungspreise auf der österreichisch-ungarischen Donau und die Eisenbahnen.* Archiv f. Eisenbahnw., Mar.-Apr., May-June, 1915. Pp. 20, 22.
Railway rates and Danube shipping. With bibliography.

Accidents to railway servants. Ry. News (London), July 17, 1915. Pp. 3.
Accident returns of the British railways for 1914 show considerable reduction, despite war conditions.

Australia's transcontinental railway. II. Progress of the works. Ry. News (London), June 12, 1915. Pp. 2.

British railway returns, 1914 and 1913. Ry. News (London), Sept. 4, 1915.

Statistics of British railways for 1914 are sadly emasculated, owing to the war.

Canada's new transcontinental. Railroad Men, Aug., 1915. Pp. 8.

Decision in the anthracite coal investigation. Interstate Commerce Commission, July 30, 1915.

Considerable reductions ordered in anthracite coal rates to tidewater and Eastern points. Reduction estimated at \$8,000,000 a year.

Decision as to car spotting charges. Interstate Commerce Commission, July 6, 1915.

Disallows charges proposed by the railways, and suggests that new tariffs be filed wherever the terminal service exceeds a reasonable service under the line-haul rate.

Decision in the matter of express rates, etc. Interstate Commerce Commission, July 14, 1915.

Holds that express revenues are inadequate, and provides for certain increases on first and second-class shipments.

Decision in second industrial railways case. Interstate Commerce Commission, July 1, 1915.

Divides the industrial railways into six general groups, and suggests the proper form of agreement with each.

Decision in 1915 Western rate advance case. Interstate Commerce Commission, July 30, 1915.

Proposed increases granted in part on grain products, bituminous coal and coke, rice, fruits and vegetables, hay and straw. Aggregate freight revenue thus added estimated at \$1,600,000 a year, or $\frac{1}{4}$ of 1 per cent of total freight revenue of the Western roads.

The French railways in war time. Engg. (London), Apr., 16, 1915. Pp. 2.

War-time arrangements between the French government and the railways.

The government's Alaskan railway. Ry. Rev., Sept. 25, 1915. Pp. 4.

With maps and illustrations.

International Engineering Congress at San Francisco, Sept. 20-25, 1915. Ry. Age Gaz., Oct. 1, 1915. Pp. 10.

Abstract of railway papers by Messrs. Luigi Luiggi, Victor Bayley, C. D. Jameson, E. H. McHenry, Wm. Hood, G. M. Eaton, E. R. Johnson, Wm. B. Parsons, F. Lavis, etc.

The Interstate Commerce Commission's report on Rock Island. Ry. Age Gaz., Aug. 20, 1915. Pp. 5.

The low level of American freight rates. Ry. Wld., Aug., 1915. Pp. 3.

Comment on Bureau of Railway Economics' brochure, *Comparison of Railway Freight Rates in the United States, the principal Countries of Europe, South Australia, and South Africa.*

Military traffic on the Est. Midi railway results. Ry. Gaz. (London), May 14, June 25, 1915. Pp. 1, 1.

Items regarding operations of two French railways in war time.

Operating results of Canadian railways. Ry. Gaz. (London), May 21, 1915.

Decline in gross earnings for fiscal year 1914, decline in net earnings, and a rise in operating ratio.

Progress of China's railways. Far Eastern Rev., July, 1915. Pp. 2.

Railroad bankruptcy. Ry. Age Gaz., Oct. 15, 1915. Pp. 3.

With map. One sixth of railway mileage of the United States in receivers' hands; two thirds of the bankrupt mileage is in Southwest.

The railway exhibit at the Panama-Pacific International Exposition at San Francisco, California. III, IV, V. Ry. Rev., June 5, 12, 26, 1915. Pp. 2, 2, 4.

The railway mail pay problem in its present aspect. Ry. Wld., Aug., 1915. P. 7.

Railway statistics. Archiv f. Eisenbahnw., July-Aug., Sept.-Oct., 1915. Bavaria, 1912, 1913; Württemberg, 1912, 1913; Denmark, 1913, 1914; Sweden, 1911, 1912, 1913; Netherlands, 1912, 1913.

Railwaymen and the war. Ry. Gaz. (London), Sept. 17, 1915. P. 1.

Of 621,588 British railway employees 92,658, or 15 per cent, had enlisted to August 31, 1915.

Railwaymen's wages. Railway News (London), June 19, 1915. P. 1.

Details of additional war concessions and bonuses to British railway employees.

The railways and the California expositions. Ry. Age Gaz., Sept. 10, Sept. 17, 1915. Pp. 4, 4.

Illustrated articles on railway preparations and arrangements for exposition traffic.

Records of railway interests in the war. I, II. 1914-1915. Pp. 64, 88.

Illustrated symposium, by London "Railway News" on the varied activities of British railways in wartime.

Report on the Rock Island. Interstate Commerce Commission, July 31, 1915.

Severely critical of the corporate and financial management of the Rock Island.

Savings at others' expense. Annalist, Aug. 23, 1915. P. 1.

The new Treasury order requiring national banks to ship moneys and securities by mail instead of express; the "large aggregate annual saving" mentioned in the order may benefit banks, will add to postal revenues, but will probably reduce railway revenues.

Seven per cent wage reduction granted. Elec. Ry. Journ., Sept. 4, 1915. Pp. 3.

Wages of Vancouver street railway employees cut by arbitration board, effective Sept. 1, 1915, to run till July 1, 1917. Reasons were business depression, lowered cost of living, and in a measure the poor financial condition of the employing company.

Sir William C. Van Horne. Ry. Rev., Sept. 18, 1915. Pp. 3.

Sketch of the life and work of president of Canadian Pacific Railway.

Stockholders in railways of the United States. Ry. Rev., July 31, 1915. P. 1.

Comment on statistical compilation by Bureau of Railway Economics.
Train control developments on the Great Western railway. Ry. Gaz. (London), July 2, 1915. Pp. 2.

System of telephone control extending.

Train and road accidents in 1914. Ry. News (London), June 19, 1915. P. 1.

In connection with movement of trains in United Kingdom, 1,115 persons were killed during 1914 as compared with 1,131 in 1913; 7,850 were injured, as compared with 9,054 in 1913. These decreases in 1914 were in spite of "enormous movement of troops and materials from August to the end of the year."

What becomes of your five cents car fare. Annalist, Aug. 23, 1915. P. 1.

Comparison of relative expenditures of New York City subway, elevated, and surface railways.

Les cours des principales valeurs avant la guerre et aujourd'hui. Les obligations et les actions de chemins de fer. L. Econ., Franç, Aug. 7, 1915. Pp. 2.

Market values of French railway securities decreased without exception between June, 1914, and July, 1915, the decreases running up to 20 per cent of the 1914 quotations.

La mobilization du personnel des chemins de fer en Allemagne et en France. Journ. des Transports, Aug. 28, 1915. Pp. 4.

Comparison of French and German railway organizations as related to war.

Die Eisenbahnen Columbiens. Archiv f. Eisenbahnw., Jan.-Feb., 1915. Pp. 9.
Description, with map, of the railways of Colombia.

Zur Frage der öffentlichrechtlichen Reglung der Eisenbahnerlöhne in den Vereinigten Staaten von Amerika. Archiv f. Eisenbahnw., July, Aug., 1915. Pp. 6.

Review of F. H. Dixon's paper, "The regulation of railway wages," in the AMERICAN ECONOMIC REVIEW, SUPPLEMENT, V, 245-269.

Accounting

(Abstracts by Martin J. Shugrue)

ALVORD, J. W. *The appellate court of the state of New York and the question of allowances for paving over mains in valuation work.* Journ. Am. Water Wks. Assoc., Sept., 1915. Pp. 28.

Criticises action of court in refusing to allow paving over the mains as properly a part of the reproduction estimate. Discussion by other members of the association.

BAUER, J. *Going value.* Pol. Sci. Quart., Sept. 2, 1915. Pp. 13.

Reviews "going value" under the New York rule, considering precisely what it is, how it should be calculated, and under what circumstances it should reasonably be allowed.

BAUER, J. *Depreciation formula of American Society of Civil Engineers.* Journ. Account., Aug., 1915. Pp. 8.

A supposedly new formula for measuring plant depreciation proposed in a report of the American Society of Civil Engineers some time ago is merely a restatement of the sinking fund formula in different terms.

BAUER, J. *Rents in public utility accounting*. Journ. Account., July, 1915. Pp. 7.

Correct apportionment of rent between operating expenses and income deductions depends very largely upon what the classification is expected to show.

BOSLEY, W. B. and GRUNSKY, C. E. *Depreciation as an element for consideration in the appraisal of public service properties*. Am. Soc. Civ. Engineers, Aug., 1915. Pp. 14.

Discussion and author's closure by C. E. Grunsky.

CLARKE, P. H. *Inventories that take care of themselves*. System, Oct., 1915. How they should be handled. Shows forms and illustrations.

FICKER, N. T. *Distribution of power expense in manufactures*. Engg. Mag., Sept., 1915. Pp. 10.

How manufacturing expense is distributed to the various centers of production, and how power expense may be segregated according to classes and charged to machine or material expense.

FICKER, N. T. *Distributing overhead expense*. Engg. Mag., Oct., 1915. Pp. 7.

Fifth article of a series on "Distributing manufacturing expense." Standardized method of distributing rent expense. Final chapter of series to appear in December number.

GANDOLFO, J. H. *The valuation of public utility property*. Pro. Am. Soc. Civ. Engg., Sept., 1915. Pp. 23½.

Author's closure. A summary of the discussion continued from February, 1915, *Proceedings*. Takes up each contribution separately and comments on the salient points therein.

GANTT, H. L. *Relation between production and costs*. Journ. Am. Soc. Mechanical Engineers, Aug., 1915. Pp. 9½.

The only indirect expense logically chargeable to a product is that needed for its production when the factory is running at its full or normal capacity.

GILLETTE, H. P. *The valuation of water works properties*. Engg. & Contracting, Oct. 6, 1915. Pp. 3½.

VI. Appraisal of development cost or going value and franchise value.

HEILMAN, R. E. *Some economic aspects of water works valuation*. Journ. Am. Water Works Association, Sept., 1915. Pp. 5.

Summarizes and comments on different methods of treating development expenses and early losses in utility rate cases.

HILL, N. S. *Valuation of public utilities*. Pro. Munic. Engineers of the City of New York, 1914. Pp. 132.

A consideration of the important problems and the methods involved, accompanied with tables.

HUMPHREYS, A. C. *Depreciation and confiscation.* Ry. Age Gaz., Aug. 20, 1915. Pp. 1½.

The aging of plant calls for a charge for renewals and replacements, but does not call for, nor does it in any way justify, a writing down of the fixed capital account.

JACKSON, H. D. *Uniform electric rates based on costs.* Elec. Wld., July 31, 1915. Pp. 2.

Shows the injustice of fixing rates so that the total of all the rates is equal to cost, plus a fair profit.

LEAKE, P. D. *Depreciation and wasting assets.* Accountant, July 3, 1915. Pp. 7.

An exposition of the problem and a discussion of the common theories of measurement.

LITTLE, A. S. *The tyranny of the engraver.* Journ. Account., Sept., 1915. Pp. 17.

A protest against the persistent recognition of par, premium, and discount in annuity and bond discount calculations.

NASH, L. R. *New light on diversity factors.* Stone & Webster Pub. Serv. Journ., Aug., 1915. Pp. 9.

Comments on and extracts from a paper presented before recent annual convention of the National Electric Light Association analyzing service costs and their corresponding rate schedules.

OKEY, F. *Standardization of financial statements.* Journ. Account., Sept., 1915. Pp. 7.

Needs and advantages of standarized forms and terminology especially in municipal and state reports.

PRATT, E. A. *Ancient and modern accounting for public utilities.* Journ. Am. Water Works Assoc., June, 1915. Pp. 10.

The "ancient" books, forms, and accounting methods commonly used by modern utilities.

STOTHART, E. E. *Graphs, charts and statistics as aids to administration.* Elec. Ry. Journ., Oct. 2, 1915. Pp. 3.

Critical discussion is made of these devices for keeping executives in touch with operations. Specimen comparative forms are included.

WINCRANTZ, K. F. *I hvad man innebär Telegrafstyrelsens nya taxeförslag en beskattnings?* Ek. Tids., No. 3, 1915. Pp. 8.

If the telegraph and telephone services (of Sweden) are to be taxed, the author favors the accounting of the tax as a tax paid into the state treasury and not as an increased income of these state-owned systems.

Depreciation in public utilities. Elec. Wld., Oct. 2, 1915. P. ½.

Idaho supreme court decides question may be entirely disregarded if plant of utility company is in good operating condition.

Form of published accounts. Accountant, Sept. 25, 1915. Pp. 2.

Raises the question as to whether the customary form of published balance sheets should be changed.

Recent progress in the federal valuation work. Ry. Age Gaz., Sept. 24, 1915.

Methods are being revised and standardized. Increased results are secured in all departments.

Public Utilities

(Abstracts by Ralph E. Heilman)

BENNETT, C. G. *Illinois Utility Commission and the water works companies.* Journ. Am. Water Works Assoc., June, 1915.

BOSTWICK, A. L. *The regulation of the jitney bus.* Bull. St. Louis Public Library, July, 1915.

A discussion of city ordinances.

COOKE, A. *Financing of public utility properties.* Gas Age, July 15, 1915.

The problem of raising money for utility enterprises.

DOLITTLE, F. W. *Economics of the jitney bus movement.* Elec. Ry. Journ., Aug. 7, 1915.

Factors affecting development of jitney bus movement. Effect on street railways and the public.

DOLITTLE, F. W. *Operating cost and shifts in service.* Elec. Ry. Journ., Aug. 21, 1915.

Cost of service should be considered in making street railway schedules. Increased rush hour service causes higher unit costs.

GRAHAM, D. A. *The application of the theories of public regulation to the management of utilities.* Journ. Am. Water Works Assoc., June, 1915.

Interests of the public and of the utilities can best be served by devising simple means of providing fair return for adequate service.

HARDENBURG, W. E. *Calgary's municipal street railway.* Munic. Journ., Sept. 9, 1915.

Describes six years of operation, and claims profit in spite of hard times.

HEILMAN, R. E. *Two rate decisions of importance.* Quart. Journ. Econ., Aug., 1915.

Recent decision of Massachusetts Public Service Commission on street railway fares, and of the New Jersey Commission on franchise values.

KING, C. L. *A digest of the ordinances regulating jitney busses adopted in American cities.* Utilities Mag., July, 1915.

LARSON, C. M. *State regulation of municipally owned plants.* Journ. Am. Water Works Assoc., Sept., 1915.

Work of Wisconsin Railroad Commission in supervising municipally owned utilities.

LOGAN, J. *The public service corporation and the municipality.* Journ. Boston Soc. Civ. Engineers, June, 1915.

The value and importance of publicity.

PATTERSON, E. M. *Financial history of the Philadelphia Electric Company.* Annual Report of the Director of Public Works, Philadelphia, 1914.

Alleges heavy overcapitalization of this corporation, and the charging of excessive rates to consumers.

TOLL, R. W. *Traffic investigation in Denver*. Elec. Ry. Journ., Aug. 21, 1915.

Investigation in Denver shows a marked increase in automobile and bicycle traffic.

WILCOX, D. F. *The crisis in public service regulation in New York*. Nat. Munic. Rev., Oct., 1915.

Recent investigations of work of the New York commissions, and appointments to its membership.

Another Massachusetts fare increase. Elec. Ry. Journ., Aug. 28, 1915.

The Public Service Commission grants a 6-cent fare to the Norfolk and Bristol Street Railway, on account of "inadequate return on the stockholder's investment."

Massachusetts Public Service Commission's view on accrued appreciation. Annalist, Aug. 9, 1915.

When revenues have been insufficient to meet fixed charges, accrued depreciation should be included with permanent capital in the establishment of rates.

Milwaukee fare case decided. Elec. Ry. Journ., July 10, 1915.

United States Supreme Court holds that under existing statutes the city has no power to enter into a contract governing rates.

One year's operation of the Seattle municipal railway. Stone & Webster Pub. Serv. Journ., Sept., 1915.

Results of one year's experiment with municipal ownership.

The public utility situation in Seattle. Stone & Webster Pub. Serv. Journ., Sept., 1915.

The Puget Sound Traction Light and Power Company files a complaint against the city of Seattle because of the demands made upon the company by the city.

The telephones in Latin America. Bull. Pan Am. Union, July, 1915.

The distribution of telephone service and methods of operation in the Latin-American countries.

Unprofitable street-car traffic. Engg. News, July 8, 1915.

Discussion of the claim that long haul suburban traffic is unprofitable.

Investments

(Abstracts by Arthur S. Dewing)

AMORY. *The capital account of British railways*. Annalist, Sept. 19, 1915.

A very brief and valuable statement of the proportions of bonds and stocks in English railway capitalizations. Also a few interesting traffic statistics.

COLLVER, C. *Short term public utility notes*. Moody's Mag., Sept., 1915.

Sympathetic analysis of several issues of very varying value. Article is uncritical.

CRISCUOLO, L. *Legal investments in New York state.* Bankers Mag., July, 1915.

Continuation of a previous article. Points out difficulty of determining legality according to net earnings.

FARRELL, J. A. *Central and South American trade as affected by the European war.* Ann. Am. Acad., July, 1915.

Deals especially with investment of this and European nations in Latin-American countries.

GIBSON, T. *Industrial securities and the public.* Moody's Mag., Sept., 1915.

Speculation is inherent in human nature. The remedy, as far as securities are concerned, is publicity. The industrials, as notorious offenders against publicity, must change their policy. Stock exchange should encourage this.

MOODY, J. *Prospects of the United States Steel securities.* Moody's Mag., July, 1915.

An optimistic analysis of Steel common stock.

SPROULE, W. *The railroads and the people.* Journ. Am. Bankers Assoc., Oct., 1915.

Investment interest in the railroads very extensive; the public requires good service which is based on making railroad investments sound.

Our borrowed capital. Annalist, June 28, 1915.

A summary of Loree's remarkable study of foreign holdings of American railway bonds.

The right to gamble. Annalist, Aug. 2, 1915. Pp. 120.

Able discussion of the predominating stock exchange transactions. It is in the interest of the exchange to frown on violent fluctuations; brokers should insist on large margins.

Corporations and Trusts

(Abstracts by Arthur S. Dewing)

COTTER, A. *Spirit of the United States Steel Corporation.* Moody's Mag., Sept., 1915.

Spirit of coöperation, team play, as leading to efficiency. Opposes labor unions because believes them opposed to maximum efficiency.

MOODY, J. *The Republic Iron and Steel Company.* Moody's Mag., Sept., 1915.

Analysis of company, not very critical although it does bring out the fact of under maintenance and depreciation reserve. Increase of capital investment per dollar of product interesting example of law of diminishing returns.

PRINCE, T. M. *The International Mercantile Marine situation.* Moody's Mag., Sept., 1915.

Historical statement and present condition of company. Poverty during the early part of the war, followed by receivership, then sudden opulence. Should be read in connection with Meade's original study of the combination in *Political Science Quarterly*, vol. XIX, p. 50.

SEAGER, H. R. *The new anti-trust acts.* Pol. Sci. Quart., Sept., 1915.

A sympathetic analysis of current legislation.

Labor and Labor Organizations

(Abstracts by George E. Barnett)

ALEXANDER, M. W. *Hiring and firing: its economic waste and how to avoid it.* Stone & Webster Pub. Serv. Journ., Sept., 1915. Pp. 16.

ANDREWS, J. B. *A national system of labor exchanges in its relation to industrial efficiency.* Ann. Am. Acad., Sept., 1915. Pp. 8.

A national system is necessary to coördinate the state and municipal exchanges.

BEEBY, G. S. *The artificial regulation of wages in Australia.* Econ. Journ., Sept., 1915. Pp. 8.

The present system lowers the efficiency of the worker. Only a national minimum wage sufficient to give a bare living should be prescribed.

BRUÈRE, H. *America's unemployment problem.* Ann. Am. Acad., Sept., 1915. Pp. 14.

CARTER, G. R. *The South Wales coal strike.* Econ. Journ., Sept., 1915. Pp. 14.

EGGLESTON, F. W. *The Australian democracy and its economic problems.* Econ. Journ., Sept., 1915. Pp. 14.

The next step should be the introduction of coöperation.

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GOMPERS, S. *The workers and the eight-hour workday.* Am. Federationist, Aug., 1915. Pp. 29.

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KOOTZ, R. *Die Verträge zwischen Arbeitgebern und Arbeitnehmern in deutschem Buchdruckgewerbe.* Zeitschr. f. d. ges. Staatswiss., 71, 2, 1915. Pp. 27.

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NASH, M. *Municipal employment bureaus in the United States.* Nat. Munic. Rev., July, 1915. Pp. 8.

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RUSSELL, F. A. A. *Industrial arbitration in New South Wales.* Econ. Journ., Sept., 1915. Pp. 19.

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SEWARD, H. F. *Special applications of the piece work system.* Journ. Account., Aug., 1915. Pp. 9.

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STROMEYER, H. *Steigerung der Arbeitsintensität bei Industriearbeitern.* Schmollers Jahrb., 39, 3, 1915. Pp. 50.

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WICKERSHAM, G. W. *Labor legislation in the Clayton act.* Am. Federationist, July, 1915. Pp. 12.

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Bay state street railway arbitration. Elec. Ry. Journ., June 26, 1915. Pp. 2.
An analysis of the award.

Building unto idleness. Annalist, Sept. 13, 1915. Pp. 3.

The idle capacity of American factories, averaging 25 per cent, constitutes the greatest single waste in industry.

Employees receive increase in Chicago. Elec. Ry. Journ., June 24, 1915. Pp. 3.

The text of the arbitration award in the Chicago street railway case.

Ontario commission on unemployment. Lab. Gaz., Aug., 1915. Pp. 8.

Recommends a Provincial system of employment offices and subsidies to associations providing insurance against unemployment.

Organisation in coal mines to increase output. Board of Trade Labour Gazette, June, 1915. P. 1.

Recommendations by a departmental committee appointed to consider means for securing the necessary output of coal.

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A plan for the consolidation and regrouping of all governmental agencies in Germany charged with the protection of labor.

Prices and Cost of Living

CANNAN, E. *Report of the committee on coal prices.* Econ. Journ., June, 1915.

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PAISH, G. *Prices of commodities in 1914.* Journ. Royal Stat. Soc., Mar., 1915.

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Money, Credit, and Banking

(Abstracts by Don C. Barrett)

AGGER, E. E. *The depreciation of sterling.* Annalist, Sept. 6, 1915.

Causes and effects of the decline. Normal level can be restored only by large loan.

ALLEN, W. H. *What is the matter with foreign exchange?* Moody's Mag., Sept., 1915. Pp. 2.

ARNOLD, J. J. *The American gold fund of 1914.* Journ. Pol. Econ., July, 1915. Pp. 11.

Explains the need of meeting our foreign obligations at outbreak of the war and details of the method pursued.

BENDIX, L. *Germany's financial mobilization.* Quart. Journ. Econ., Aug., 1915. Pp. 24.

Excellent discussion of Germany's organization of credit facilities.

for duration of war. The Reichsbank, with increased gold reserve, supports the new "imperial loan banks" and new "war credit banks." This organization rendered a moratorium unnecessary. Unfavorable foreign exchange no indication of Germany's financial strength.

CAMPBELL, H. M. *Can Congress confer trust powers upon national banks?* Journ. Am. Bankers Assoc., Sept., 1915. Pp. 5.

Legal and economic reasons for opposing this grant of powers.

CONANT, C. A. *The modern field for the bank note.* Bankers Mag., Sept., 1915. Pp. 10.

The function of bank notes is to supply the demand for currency at seasons of special trade activity and when credit is clogged as in crises, and also to permit the concentration of the gold stock in central bank—historical and current evidence.

COSBY, J. T. *Latin America monetary systems and exchange conditions.* Nat. City Bank, New York. Pp. 31.

D. D. *Riksbankens sedelutgivning.* Ek. Tids., No. 5, 1915. Pp. 3.

A defense of the bank note issue of the Swedish central bank since the outbreak of the war.

EDWARDS, G. E. *Liquidity of savings bank investments.* Journ. Am. Bankers Assoc., Sept., 1915. Pp. 3.

Savings banks should invest a certain proportion of deposits in short time, readily convertible paper, e.g., acceptances, and thus abolish necessity for notices of withdrawal.

GIBSON, A. H. *War loans, interest and banking deposits.* Bankers' Mag. (London), Aug., 1915. Pp. 17.

Means of preventing high interest rate on war loans: causes which underlie the great increase in banking deposits.

HOFFMANN, W. *Die Arbeitsteilung zwischen Sparkassen und Depositenkassen.* Zeitschr. f. d. ges. Staatswiss., 71, 2, 1915. Pp. 45.

Concluding article. Analyzes functions of these classes of banks in current practice. Economic problems of the two differ almost completely.

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In East Prussia, the land credit association has been enabled to grant small landholders as large loans as those to owners of medium sized and large farms.

LUCEY, J. P. *Illinois statutes prohibit grant of trust powers to national banks.* Trust Companies, June, 1915. Pp. 5.

Gives substance of opinion rendered by the attorney general.

LYFORD, F. E. *The country banks and the federal reserve system.* Moody's Mag., Sept., 1915. Pp. 2.

McCALEB. *The financial revolution.* Moody's Mag., Aug., 1915. Pp. 4.

Traces some influences of federal reserve system upon the course of financial and economic affairs.

M'EWAN, A. *The securities department of a branch bank: a brief outline of its work.* Scottish Bankers Mag., July, 1915. Pp. 13.

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PATTERSON, E. M. *Guarding against credit inflation in the United States.* Trust Companies, June, 1915. Pp. 5.

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PEDRAZZA, V. *Le banche popolari coöoperative della provincia di Torino negli otto mesi di moratoria.* Rif. Soc., June-July, 1915. Pp. 11.

SMITH, J. C. *The debt-paying power of money.* Bankers' Mag. (London), July, 1915. Pp. 6.

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SNYDER, F. B. *Federal reserve banks and the reserve agent.* Journ. Account., July, 1915. Pp. 6.

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STRONG, B. *Federal reserve system—development of check collection plans and relation of state banks and trust companies.* Trust Companies, June, 1915. Pp. 10.

Difficulties of check collection will become more acute for the small country banks as their reserve accounts are finally transferred to reserve banks. Analysis of regulations regarding admission of state institutions. Need of care in use of existing surplus reserves in order to avoid inflation and to solve international problems.

VIALLATE, A. *La réforme bancaire aux Etats-Unis. Le "Federal Reserve Act," du 23 décembre 1913.* Rev. Sci. Pol., Aug., 1915. Pp. 20.

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America's interests as affected by the European war. Ann. Am. Acad., July, 1915.

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Bankers commend movement for liquidity of savings bank assets. Journ. Am. Bankers Assoc., Sept., 1915. Pp. 7.

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The government clings to obsolete treasury—has made no deposits in the federal reserve banks. Journ. Am. Bankers Assoc., Aug., 1915. Pp. 5.

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The great crisis. The second government loan. Bankers' Mag. (London), July, 1915. Pp. 11.

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How the banker should analyze prospective borrower's statement. Journ. Am. Bankers Assoc., Aug., 1915. Pp. 5.

Importance of ratio of quick assets to liabilities. Analysis of the balance sheet. Difficulty in obtaining correct information.

No savings out of earnings. Annalist, Aug. 30, 1915.

Depositors of New York savings banks have withdrawn more than they have deposited. Investment intelligence has risen.

Organisation and work of the real estate credit societies (continued). Mo. Bull. Econ. & Soc. Intell., July, 1915. Pp. 20.

Methods of formation of capital. Relation of the society to the state, to private borrowers, and to cheap dwelling house societies.

Savings bank section:—statistics of school savings—fundamentals of thrift—unique savings calendar—eat your bread and have it—talks on thrift—branch banks—forms for savings banks. Journ. Am. Bankers Assoc., Aug., 1915. Pp. 8.

Middle Western states lead in deposits.

Synopsis of proceedings of the United States League meeting at San Francisco, California. Am. Bldg. Assoc. News, Aug., 1915. Pp. 37.

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La question du change et l'or. L'Econ. Franç., July 10, 1915. Pp. 2.

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Public Finance

(Abstracts by Charles P. Huse)

BALTES, E. *Die deutschen Vermögensteuern.* Finanz-Archiv, XXXII, 2, 1915. Pp. 127.

Compares the property taxes of the various German states and considers the defense contribution tax.

BELLET, D. *La situation budgétaire espagnole.* Journ. des Econ., June, 1915.

Shows the effect of the war on Spanish revenues.

BENDIX, L. *Germany's financial mobilization.* Quart. Journ. Econ., Aug., 1915. Pp. 24.

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BICKERDIKE, C. F. *On paying for war by loans.* Econ. Journ., Sept., 1915. Pp. 10.

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BRUÈRE, H. *Where New York stands: what we have, what we spend.* N. Y. Tribune, Sunday, June 20, part 3, 1915. Pp. 2.

DANZIGER, S. *The single tax and American municipalities.* Nat. Munic. Rev., Oct., 1915. Pp. 5.

A review of recent single tax legislation in the United States and a description of the single tax colonies by the editor of the *Public*, Chicago.

FASOLIS, G. *Le finanze della confederazione svizzera e l'imposta straordinaria di guerra.* Rif. Soc., June-July, 1915. Pp. 15.

GARDNER, H. B. *Census report on wealth, debt, and taxation.* Am. Econ. Rev., Dec., 1915. Pp. 10.

GEORGE, R. E. *The rapid increase in municipal expenditure.* Nat. Munic. Rev., Oct., 1915. Pp. 5.

An analysis of municipal expenditures leads to the conclusion that their growth will be still more rapid in the future.

GUNN, F. E. *What is the best order for presenting data in reports of city comptrollers and auditors?* Pro. Nat. Assoc. Comptrollers & Accounting Officers, 1914.

HAMILTON, M. *Telefontariffreformen och telefonbeskatningen.* Ek. Tids., No. 2, 1915. Pp. 25.

Favors postponement of special taxes on telephone until effects of present telephone tariff reforms can be ascertained.

HAIG, R. M. *The effects of increment taxes upon building operations.* Quart. Journ. Econ., Aug., 1915. Pp. 12.

A criticism of Professor Anderson's recent denial of the argument that a tax on land increment stimulates building.

HAIG, R. M. *New sources of city revenue.* Nat. Munic. Rev., Oct., 1915. Pp. 10.

Reviews the finances of a number of American cities and considers various plans suggested for increasing their revenues.

HOBSON, C. K. *Economic mobilisation for war.* Sociol. Rev., July, 1915. Pp. 20.

An interesting description of the methods used by Great Britain in financing the war, strengthening private credit and diverting the economic forces of the nation to public use. Believes the war will result in a permanent enlargement of state activity.

HOBSON, J. A. *The coming taxation.* Contemp. Rev., Sept., 1915. Pp. 12.

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HOBSON, J. A. *The war loan as an instrument of economy.* Nineteenth Cent., Sept., 1915. Pp. 11.

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HOGGE, J. M. *The naval and military war pensions bill.* Contemp. Rev., Sept., 1915. Pp. 8.

A discussion by a member of the English parliament of the proposals for providing more adequate pensions.

HUBERT-VALLEROUX. *L'impôt sur le revenu, d'après un économiste américain.* Réf. Soc., Sept. 16, 1915. Pp. 12.

A review of William Oualid's French translation of Professor Seligman's work on *The Income Tax*.

JENNINGS, H. J. *The great war loan.* Fortn. Rev., Aug., 1915. Pp. 15.

JENNINGS, H. J. *How the war is financed.* Fortn. Rev., June, 1915.

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KEYNES, J. M. *The economics of war in Germany.* Econ. Journ., Sept., 1915. Pp. 10.

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KNOTT, H. *Die weimarer Landesschulden. Ein Gedenkblatt zur Jahrhundertfeier des Grossherzogtums Sachsen.* Finanz-Archiv, XXXII, 2, 1915. Pp. 36.

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KRISTENSEN, K. J. *Det svenske Tobakmonopol.* Nat. ök. Tids., Mar.-Apr., 1915. Pp. 10.

Discussion of plans to extend state monopolisation of tobacco in Sweden as a means of raising more revenue.

MARRIOTT, J. A. R. *Private thrift and public expenditure.* Fortn. Rev., Aug., 1915. Pp. 13.

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OSBORNE, E. S. *Short time loans and sinking funds.* Nat. Assoc. Comptrollers & Accounting Officers, 1914.

PIERSON, A. N. *Are municipal debts ever paid?* Real Estate Mag., July, 1915.

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Statistical study of finances of important German cities under stress of war.

ROULAND, E. *Le colossal emprunt britannique.* L'Econ. Franç., July 17, 1915.

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SALOMON, J. *Englands og Preussens Bykommuner.* Nat. ök. Tids., May-June, 1915. Pp. 16.

Treats of the organization and administration of local government in England and Prussia.

SCHNEIDER, O. *Die Kriegsfinanzen der europäischen Grossmächte.* Schmollers Jahrb., 39, 3, 1915. Pp. 52.

A review of the financial resources of Russia, France, England, Germany, and Austria leads the author to conclude that superior military and financial organization will eventually bring victory to Germany.

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A study of the debts and revenues of Australian states reveals financial unpreparedness for war.

SEGNER, F. *Bibliographie der finanzwissenschaftlichen Literatur für das Jahr 1914.* Finanz-Archiv, XXXII, 2, 1915. Pp. 22.

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A useful survey of Canada's financial system. Per capita taxes exceed those in United Kingdom. Recommends income tax to meet increasing expenditures.

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An exhaustive study of the development of the Austrian income tax from 1896 to the present.

TUCKER, R. S. *The British taxes on land values in practice.* Quart. Journ. Econ., Aug., 1915. Pp. 26.

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YARROS, V. S. *Chicago's sensational tax cases.* Nat. Munic. Rev., July, 1915. Pp. 6.

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Currency and finance in Canada. Econ. Journ., June, 1915. Pp. 4.

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La conférence de Paris de février 1915 et l'alliance financière de l'Angleterre, de la France et de la Russie. Rev. Sci. Légis. Finan., Apr.-June, 1915. Pp. 25.

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Les finances de guerre de l'Angleterre. Rev. Sci. Légis. Finan., Apr.-June, 1915. Pp. 36.

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Les moyens de pourvoir aux frais de guerre: le grand emprut national en vue. L'Econ. Franç., Aug. 21, 1915.

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Tariffs and Reciprocity

(Abstracts by Henry R. Mussey)

DUB, M. *Nochmals zur Frage der Zollunion.* Schmollers Jahrb., 39, 3, 1915. Pp. 17.

Favors a customs union of Germany and Austria in the distant future, but opposes anything more than guarded preference immediately, because of the backwardness of Austrian industries as compared with German.

DUREAU, G. *Le marché sucrier anglais et la guerre de 1914.* Journ. des Econ., June, 1915. Pp. 16.

Effects of war; agitation for preferential duties.

MC PHERSON, J. B. "Some aspects of the tariff question." A review of Professor Taussig's latest Harvard volume. Bull. Nat. Assoc. Wool Mfrs., July, 1915. Pp. 26.

A criticism of the accuracy of Professor Taussig's statements concerning wool and wool manufacture.

ZNAMIECKI, A. *The present Russian customs tariff.* Americas, June, 1915. Detailed statement of rates imposed on imports into Russia.

Housing

(Abstracts by James Ford)

ADAMS, T. *Housing and town planning in Canada.* Town Planning Rev., July, 1915. Pp. 7.

ADSHEAD, S. D. *The urban land problem as it affects town planning.* Town Planning Rev., July, 1915. Pp. 12.

AERY, W. A. *Better health and better homes for negroes by negroes.* Survey, May 15, 1915. Pp. 2.

BASSETT, E. M. and SCHAREFF, M. R. *English housing from American points of view.* Am. City, July, 1915. Pp. 4.

BENOIT-LÉVY, G. *Plans d'aménagement des villes et les cités-jardins.* Rev. d'Econ. Polit., July-Aug., 1915. Pp. 24.

BRANFORD, MRS. V. *Relation of capital to credit with special reference to rural housing.* Sociol. Rev., Jan., 1915. Pp. 4.

CHAPPELL, E. L. *War and the housing problem.* Garden Cities and Town Planning Mag., July, 1915. Pp. 5.

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DUFOURMANTELLE, M. *Les cités-jardins, leur portée sociale, leur caractère, leur organisation.* Bull. Soc. Franç. des Habitations à Bon Marché, Nos. 1-4, 1915. Pp. 46.

Descriptive and critical study of garden cities of England, Germany, and France.

EDIN, K. A. *Växande smaafolkesfamiljers bostadsfraaga belyst med naagra göteborgssiffror.* Ek. Tids., No. 4, 1915. Pp. 23.

The housing problem in the light of Göteborg (Sweden) statistics.

ERNEST, G. *Comment calculer les loyers d'un immeuble pour habitations à bon marché bénéficiant d'une subvention municipale.* Bull. Soc. Franç. des Habitations à Bon Marché, Nos. 1-4, 1915. Pp. 6.

GAUNT, W. H. *A year of wartime at Letchworth.* Garden City & Town Planning Mag., July, 1915. Pp. 2.

Growth of industries and population in war time.

HEADLEY, M. D. *Housing England's submerged tenth.* Am. City, Sept., 1915. Pp. 4.

HOBART, L. P. and CHENEY, C. H. *Why bad housing costs and better housing pays.* Architect & Engineer of California, June, July, Aug., 1915. Pp. 6, 8, 5.

HORSFALL, T. C. *Dwellings in Berlin: the King of Prussia's great refusal.* Town Planning Rev., July, 1915. Pp. 10.

IHLDER, J. *City housing—past and future.* Nat. Housing Assoc. Pubs., July, 1915. Pp. 14.

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LEICESTER, B. *The cottage building industry.* Garden City & Town Planning, June, 1915. Pp. 4.

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REY, A. A. *The healthy city of the future: scientific principles of orientation for public roads and dwellings.* Town Planning Rev., July, 1915. Pp. 8.

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WILLIAMS, F. B. *Significance of the English town planning act of 1909.* Journ. Am. Inst. Architects, May, 1915. Pp. 6.

Ellen Wilson memorial homes. Journ. Am. Inst. Architects, Aug., 1915. Pp. 6.

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Insurance and Pensions

(Abstracts by Henry J. Harris)

BAILWARD, W. A. *Naval and military war pensions bill (1915).* Charity Organ. Rev., Sept., 1915. Pp. 11.

Because of its financial and administrative provisions, author opposes the bill, action on which has been deferred until the next session.

BROECKER, H. *Voraussichtliche Wirkungen des Krieges auf die Lebensversicherung.* Zeitschr. f. d. ges. Versicherungswis., Sept., 1915. Pp. 14.

Among the probable effects may be named cessation of foreign business, restriction of re-insurance in foreign companies, reduction of new business, increase in death-rate, after effects of service on insured lives, change in rate of interest on investments.

BURN, J. *Practical points in connection with the formation and valuation of pension funds, with a note on group assurances.* Journ. Inst. Actuaries, July, 1915. Pp. 61.

Sketches plans and gives formulas for actuarial phases of pension funds for business undertakings.

CARMAN, F. A. *Canadian government annuities.* Pol. Sci. Quart., Sept., 1915. Pp. 22.

During the six years the system has been in operation, 3700 annuity contracts have been sold. The purchasers are not wage-earners, but teachers, clerks, and other salaried employees with moderate incomes.

FORSE, W. H. *Fire insurance.* Elec. Ry. Journ., Aug. 14, 1915. Pp. 2.

Premium rates for electric railways show a downward tendency.

VON FRANKENBERG, H. *Kriegsfürsorge durch Sozialversicherung.* Zeitschr. f. d. ges. Versicherungswis., Sept., 1915. Pp. 16.

Describes benefits provided to soldiers and their families in war time by the sickness, accident, invalidity, and salaried employees' insurance systems.

FULD. *Einwirkung des Kriegs auf die Unfallversicherung.* Zeitschr. f. d. ges. Versicherungswis., July, 1915. Pp. 11.

Contracts of accident insurance usually contain the clause excluding accidents caused by military events.

GAEBEL, K. *Die neuen Ortssatzzungen für die Krankenversicherung der Hausgewerbetreibenden.* Soz. Praxis, July, 1915. Pp. 2.

The model constitution proposed for the home-working trades by the association of sick insurance funds lack simplicity and clearness.

HANSEN, C. M. *Development application and effect of schedule rating in liability and compensation insurance.* Am. Underwriter, May, 1915. Pp. 10.

Description of the schedule (Universal Analytic Schedule) prepared by the Workmen's Compensation Service Bureau. In rating the hazard of an establishment, the factors to be considered are: (1) the catastrophe hazard, (2) the "pure" hazard, (3) the special hazards. Author advocates the compilation of a schedule for a theoretically perfect plant, with charges for deviations; for practical reasons the schedule adopted was one for an "average" plant with a system of charges and credits.

MICHELBACHER, G. F. *Schedule rating of permanent injuries.* Pro. Casualty, Actuarial & Stat. Soc., May, 1915. Pp. 19.

The method was formulated by the California commission. It consists of (1) rating for a standard age and occupation for each injury and (2) tables whereby other ages and occupations may be rated with reference to this standard.

MOWBRAY, A. H. *Schedule rating considered from an actuarial point of view.* Pro. Casualty, Actuarial & Stat. Soc., May, 1915.

Indicates the statistical studies which should be undertaken to correct schedules.

PHELPS, E. B. *Relative death-rates of self-declared abstainers and moderate drinkers from the actuaries' viewpoint.* Am. Underwriter, June, 1915. Pp. 33.

Difference between death-rates of abstaining and non-abstaining policyholders is still problematical, though the experience of one American company with a large number of policies shows it to be 11 per cent in favor of abstainers.

RIEGEL, R. *A survey and classification of fire underwriters' associations in the United States.* Economic Wld., July 17, 1915. Pp. 3.

Fire underwriters' associations make possible the establishment of equitable rates on scientific basis by the use of a "schedule." In many states, participation in such associations is prohibited, and their operation under these laws is a matter of difficulty. Types of associations are (1) local, (2) sectional, (3) national.

RUBINOW, I. M. *Schedule rating in compensation insurance.* Pro. Casualty Actuarial & Stat. Soc., May, 1915. Pp. 9.

Greatest argument in favor of merit rating is not static justice, but its dynamic effect upon prevention of losses.

SENIOR, L. S. *Effect of schedule and experience rating on workmen's compensation risks in New York.* Pro. Casualty, Actuarial & Stat. Soc., May, 1915. Pp. 13.

Analyzes the results of the schedule rating in force in New York since July, 1914; the Compensation Rating Board, a voluntary organization of 40 insurance carriers, has applied the rating system and inspected 20,776 risks up to April, 1915. Premiums were decreased 12 per cent on these risks.

WHITNEY, A. W. *Notes on the theory of schedule rating.* Pro. Casualty, Actuarial & Stat. Soc., May, 1915. Pp. 6.

Mathematics of schedule-rating.

Pauperism and Charities

(Abstracts by Frank D. Watson)

HUBER, M. *Allocations aux familles des militaires appelés ou rappelés sous les drapeaux.* Bull. Stat. Gén., Apr., 1915. Pp. 5.

Account of the relief granted to needy families of soldiers in France, Germany, and Italy.

PÉROUZE. *La question des soldats aveugles.* Réf. Soc., July 1-16, 1915. Pp. 9.

A discussion of the possibilities of making blinded soldiers self supporting. Suggestions are given as to the trades offering the best opportunities, e.g., brush making, piano tuning, massage, etc.

RAFFOLOVICH, A. *La guerre, l'assurance obligatoire, les œuvres d'assistance en Allemagne.* L'Econ. Franç., July, 1915. Pp. 2.

Discusses compulsory insurance and other forms of state aid in Germany in the present war.

W. G. M. *The place of organized charity during the war.* Charity Organ. Rev. Sept., 1915. Pp. 14.

Contrasts two methods of giving assistance, that of the politician and that of the social worker, founded on scientific case work with its emphasis on the personal equation.

VARIOUS AUTHORS. *Conference on war relief and personal service.* Charity Organ. Rev., July, 1915. Pp. 204.

The conference brought together those who have been engaged in organizing and administering relief incident to the war. The fundamental importance of sound case work and the principles of coöperation and coördination of effort were accepted as the ground work of the discussions. The consensus of opinion was that not by acts of Parliament alone but by volunteer effort as well can the pressing problems of the present crisis be solved.

Socialism

CARISTA, C. *La guerra e il socialismo.* Riv. Intern., June, 1915. Pp. 13.

CASSAU, T. D. *Demokratie und Grossbetrieb.* Schmollers Jahrb., 39, 3, 1915. Pp. 24.

Administrative problems in socialist organizations, labor unions, and coöperative societies.

LAGARDELLE, H. *Pablo Lafargne, el gran socialista cubano.* Rev. Bin. Cubana, Jan.-Feb., 1915. Pp. 12.

PORRI, V. *Socialismo di stato, socialismo delle gilde e trade-unionismo nel mondo del lavoro inglese.* Rif. Soc., June-July, 1915. Pp. 20.

WARSCHAUER, O. *Eigenarten des Sozialismus und die aktuelle Bedeutung seiner Begründer.* Blätter f. vergleich. Rechtswis., Apr.-June, 1915.

WILDES, H. E. *Socialist participation in the world war.* S. Atlantic Quart., July, 1915.

WRIGHT, W. K. *Private property and social justice.* Intern. Journ. Ethics, July, 1915.

Statistics

(Abstracts by A. A. Young)

ANDERSON, O. *Nochmals über "the elimination of spurious correlation due to position in time or space."* Biometrika, Nov., 1914. Pp. 11.

Another (and independent) proof of the elimination of spurious correlation due to the common "growth element" by the use of first or (for non-linear functions of time) higher differences. Gives some useful values for probable errors of correlations and for standard deviations.

BARRIOL, M. A. *La statistique de l'exploitation minière en Suède pendant l'année 1915.* Journ. Soc. Stat., Aug.-Sept., 1915. Pp. 4.

DUGÉ DE BERNONVILLE, L. *Prix des denrées dans les lycées en 1913 et 1914.* Bull. Stat. Gén., April, 1915. Pp. 9.

Continues investigations initiated by Levasseur.

CAVE, B. M. and PEARSON, K. *Numerical illustrations of the variate difference correlation method.* Biometrika, Nov., 1914. Pp. 16.

Discusses some of the possible limitations of this method, which promises to be of great value in economic investigations, and illustrates its use by applying it to the eleven series given by Professor Mortara in his paper in the *Giornale degli Economisti* for February, 1914, previously noted in these abstracts. See REVIEW, vol. IV, p. 760.

CHERVIN. *Les langues parlées en Autriche-Hongrie par les différentes nationalités.* Journ. Soc. Stat., Apr., May, July, 1915. Pp. 33, 64, 21.

A detailed investigation, based on the census of 1910. Unusually attractive and lucid exposition, broader in scope than title indicates.

COPELAND, M. T. *Statistical indices of business conditions.* Quart. Journ. Econ., May 1915. Pp. 40.

A general survey of available statistics, criticisms of the Babson and Brookmire systems, suggestions for forming indices.

CUMMINGS, J. *Coöperation of federal bureaus with private agencies in statistical work.* Quart. Pubs. Am. Stat. Assoc., Mar., 1915.

DUBLIN, L. I. *The improvement and extension of the registration area.* Quart. Pubs. Am. Stat. Assoc., June, 1915. Pp. 5.

A criticism of certain changes in the Bureau of the Census.

DUNLOP, J. H. *Waterworks statistics of thirty-eight cities of Iowa with the meter rates of seventy cities.* Bull. State Univ. Iowa., Nov., 1914. Pp. 50.

DURAND, E. D. *The statistical work of the United States government.* Quart. Pubs. Am. Stat. Assoc., Mar., 1915.

DUTTWEILER, M. *Eine Zürcher Wirtschaftsrechnung von 1883-1910.* Zeitschr. f. d. ges. Staatswiss., 71, 1, 1915. Pp. 44.

A study of the accounts of a middle-class family in Zürich.

EDGEWORTH, F. Y. *Recent contributions to mathematical economics.* II. Econ. Journ., June, 1915.

In considerable part a criticism of Nicholson's review of Pigou's *Wealth and Welfare.*

ELDERTON, E. M. and PEARSON, K. *Further evidence of natural selection in man.* Biometrika, May, 1915. Pp. 19.

Study of relation between the death-rates for infancy and childhood by means of the variate difference correlation method.

FALKNER, R. P. *Income tax statistics.* Quart. Pubs. Am. Stat. Assoc., June, 1915. Pp. 32.

An excellent analysis of the statistical yield of the first year's operation of the federal income tax. Finds many discrepancies in the figures.

FELD, W. *Volkstümliche graphische Darstellungen.* Deutsches Stat. Zentralblatt, Mar., 1915. P. 1.

Suggested by an exhibition of statistical diagrams at the Zürich museum of industrial art.

FISHER, R. A. *Frequency distribution of the values of the correlation coefficient in samples from an indefinitely large population.* Biometrika, May, 1915. Pp. 15.

FORSYTH, C. H. *Osculatory interpolation formulas.* Quart. Pubs. Am. Stat. Assoc., June, 1915. Pp. 7.

Develops osculatory formulas based on Newton's and Everett's formulas, and gives fifth differences for these as well as for Stirling's and Bessel's formulas. A valuable contribution.

GALLOT, C. *La nouvelle forme de budget de la Ville de Paris.* Journ. Soc. Stat., Feb.-Mar., 1915. Pp. 31.

Interesting analysis of important changes, prefaced by a short history of the form of the budget.

GINI, C. *Genetica e statistica rispetto all'eugenica.* Riv. Ital. di Sociol., Mar.-Apr., 1915. Pp. 5.

Reply to an attack by F. La Torre in the same number of the *Rivista.*

GIFFORD, W. S. *Some present statistical needs and the statistical work of the federal government.* Quart. Pubs. Am. Stat. Assoc., Mar., 1915.

GNAUCK-KÜHNE, E. *Das weibliche Geschlecht in der Berufsstatistik des Deutschen Reichs.* Deutsches Stat. Zentralblatt, Mar., 1915. Pp. 2.

GUYOT, Y. *Les résultats du XIII^e census des Etats-Unis.* Journ. Soc. Stat., June, 1915. Pp. 36.

With three pages of unprofitable comment in terms of individualism and state intervention.

HALBWACHS, M. *Budgets de familles ouvrières et paysannes en France, en 1907.* Bull. Stat. Gén., Apr., 1915.

The previously unpublished results of an important investigation undertaken for Mr. B. Seebohm Rowntree.

HARRIS, J. A. *On spurious values of intra-class correlation coefficients arising from disorderly differentiation within the classes.* Biometrika, Nov., 1914. Pp. 5.

Calls attention to the changes and suggests empirical methods of correction.

HOSNY, M. *Statistical notes on the influence of education in Egypt.* Biometrika, Nov., 1914. Pp. 8.

Allowing for the influence of urban concentration there is no evidence showing a connection between crime and (1) education or (2) foreign birth.

ISSERLIS, L. *On the partial correlation ratio.* Biometrika, Nov., 1914.

Deals with non-linear regression in the case of three correlated variables.

KOLLMAN, P. *Die berufliche und soziale Gliederung des deutschen Volkes.* Schmollers Jahrb., 38, 4, 1915. Pp. 71.

Based on the occupational census of 1907.

KUERTEN, O. *Weg und Ziele der staatlichen Wohnungszählungen.* Deutsches Stat. Zentralblatt, Jan., Feb., 1915. Pp. 3, 6.

Theoretical analysis together with an account of such statistics in Germany, Austria-Hungary, France, Holland, Great Britain and Ireland, Italy, Sweden, and Norway.

LAKY, D. v. *Haushaltungsstatistik der ungarischen Gemeinden.* Deutsches Stat. Zentralblatt, Mar., 1915. Pp. 3.

LEE, A. *Table of the Gaussian "tail" functions; when the "tail" is larger than the body.* Biometrika, Nov., 1914. Pp. 7.

Useful in dealing with the extreme (and supposedly homogeneous) varieties in a mixed group.

LEPELLETIER, F. *Une enquête sur les budgets de familles ouvrières au Danemark.* Réf. Soc., June, 1915. Pp. 5.

Another account of this recent Danish investigation is in the *Bulletino dell'Ufficio del Lavoro* (Rome), Oct., 1914.

MELLET, B. and STRUTT, H. C. *The multiplier and capital wealth.* Journ. Royal Stat. Soc., July, 1915. Pp. 31.

A continuation of Mr. Mallet's brilliant paper of 1908. Introduces further refinements in method, raises the "multiplier" from 24 to 28 (increased to 30 in view of certain suggestions presented in the discussion following the paper), and maintains the superiority of the returns from the estate duties to those from the income tax as a basis for estimating capital wealth.

MEEKER, R. *Some features of the statistical work of the bureau of labor statistics.* Quart. Pubs. Am. Stat. Assoc., Mar., 1915.

MEURIOT, M. *Note sur la Société de statistique en 1870-1871.* Journ. Soc. Stat., Jan., 1915. Pp. 2.

MEURIOT, P. *La population d'origine allemande en Alsace-Lorraine.* Journ. Soc. Stat., Apr., 1915. Pp. 4.

MEURIOT, P. *Statistique comparée des territoires cédés par la France en 1871.* Journ. Soc. Stat., Apr., 1915. Pp. 10.

MICHEL, E. *La valeur immobilière du territoire français encore envahi au 15 novembre 1914.* Journ. Soc. Stat., Aug.-Sept., 1915. Pp. 8.

MITCHELL, W. C. *How the statistical output of federal bureaus might be improved.* Quart. Pubs. Am. Stat. Assoc., Mar., 1915.

NEYMARCK, A. *Les émissions et remboursements d'obligations des six grandes compagnies de chemins de fer en 1914.* Journ. Soc. Stat., July, 1915. Pp. 12.

NEYMARCK, A. *La statistique internationale des valeurs mobilières.* Journ. Soc. Stat., July, Aug.-Sept., 1915. Pp. 30, 38.

A report presented to the Vienna meeting of the International Statistical Institute. This study, by a writer who has a unique mastery of this field, is of especial importance in the light it throws upon the financial conditions in the various European countries at the beginning of the war.

NORTH, S. N. D. *The census office in commission.* Quart. Pubs. Am. Stat. Assoc., Mar., 1915.

Adds further details regarding the destruction of the independent status of the census office to those given by W. F. Willcox in the *Political Science Quarterly*, Sept., 1914. Urges independence as necessary to freedom from political influences.

PARMELEE, J. H. *Public service statistics in the United States.* Quart. Pubs. Am. Stat. Assoc., June, 1915. Pp. 17.

Outline history of the development of such statistics, together with some general comment.

PEARSON, K. *On the distribution of the standard deviations of small samples.* Biometrika, May, 1915. Pp. 8.

PEARSON, K. *On an extension of the method of correlation by grades or ranks.* Biometrika, Nov., 1914. Pp. 3.

Concerned with cases where one variate is given quantitatively or by broad categories and the other only by ranks. "The correlation between ranks and a quantitative variate can never be perfect."

PEARSON, K. *On the probable error of a coefficient of mean square contingency.* Biometrika, May, 1915. Pp. 4.

PERSONS, C. E. *Estimates of a living wage for female workers.* Quart. Pubs. Am. Stat. Assoc., June, 1915. Pp. 10.

Analysis and comparison of studies in different American states and cities.

REDFIELD, W. C. *Appointments to the Census Bureau.* Commerce Repts., July 8, 1915. Pp. 4.

Information about appointments in connection with the Census of Manufactures of 1915.

SEVENIG, J. P. *Die international-einheitliche Handelsstatistik.* Wirtschafts. Archiv, Apr., 1915.

An account of the development of the movement for the unification of statistics of foreign commerce.

SOPER, H. E. *On the probable error of the bi-serial expression for the correlation coefficient.* Biometrika, Nov., 1914. Pp. 7.

THÉRY, E. *La question de l'alimentation pendant la guerre dans les grandes nations belligérantes.* Journ. Soc. Stat., June, 1915. Pp. 14.

DE V.-C. *Statistique agricole.* Bull. Stat. Gén., Apr., 1915. Pp. 30.

An account of the present status of agricultural statistics in Norway, Sweden, Luxembourg, Switzerland, Servia, Bulgaria, Roumania, Italy, Spain, Canada, Uruguay, Chile, Argentine, British India, Japan, and Australia.

WILLCOX, W. F. *The statistical work of the United States government.* Quart. Pubs. Am. Stat. Assoc., Mar., 1915.

YULE, G. U. *Crop production and price: a note on Gregory King's law.* Quart. Pubs. Am. Stat. Assoc., Mar., 1915.

Compares Gregory King's law for wheat with maize and potatoes,

finding that it gives a much higher rise in price for a given deficiency in supply.

Growth of property and of taxes. Nation, July 1, 1915. P. 1.

Comment on recent census report on *Assessed Valuation of Property and Amounts and Rates of Levy.*

Beiträge zur Statistik der Arbeitslöhne, der Stellenvermittlung, und der Arbeiteranzeidlung. Reichs-Arbeitsblatt (Sonderbeilage), Mar., 1915. Pp. 57.

Papers by Drs. Günther, Bramstedt, Huth, and Brutser.

Erhebungen von Wirtschaftsrechnungen in Deutschland. Reichs-Arbeitsblatt (Sonderbeilage), May, 1915. Pp. 18.

Analysis and comparison of results of investigations in Breslau, Munich, Halle a. S., Hamburg, and elsewhere.

Rapport du Directeur de la Statistique générale de la France sur le nombre des Français à l'étranger et sur les institutions qui leur viennent en aide. Bull. Stat. Gén., Jan., 1915. Pp. 80.

A thoroughgoing investigation, based on census reports and on information obtained through questionnaires sent to 933 French consulates.

NOTES

CUTTING OF THE LEAVES OF THE REVIEW. A number of members of the Association have expressed a wish that the pages of the Review be cut in advance of mailing. The principal objection to cutting is that if the leaves are trimmed at the time of issue and then trimmed again when the volume is bound there may be a narrow margin left for the bound volume. Members are requested to express a preference by writing to the Managing Editor or to the Secretary. It is believed possible to arrange two mailing lists, one for those desiring the pages cut and one for those preferring them in the present form.

THE SAN FRANCISCO MEETING. The American Economic Association has long looked forward to the possibility of a meeting on the Pacific coast. There could, therefore, be little question of the response which would be given to the invitations from the University of California and Stanford University asking that such a meeting be held in 1915, when the expositions would add to the always-potent attractions of California. There was some desire, even, that a summer meeting in California should be made the regular annual meeting for the year. But it seemed unwise to put so long an interval between the twenty-eighth and twenty-ninth annual meetings, especially since it could not be hoped that the attendance at a California meeting would be as large as the average for past years.

The California meeting was accordingly made a special meeting, and as such it was thoroughly successful. The program, covering the period from Wednesday evening, August 12, to Friday morning, August 13, was arranged by the local committee, Professors Plehn, Wildman, and Daggett, in coöperation with the President of the Association, Professor Willcox. The topics discussed were appropriate to the time and place. The leading papers were: "Economic aspects of the Panama canal," by Professor Grover G. Huebner; "Some of the economic aspects of Japanese immigration," by Professor H. A. Millis; "Trade relations between North and South America," by Professor Bernard Moses; and "The transcontinental railways and the canal," by Professor Stuart Daggett. There was a joint session with the National Tax Association for the discussion of an admirable report by a committee of that association on "Federal income taxation." No proceedings of the meeting will be published, but some of the leading papers, together with the President's address, appear in this number of the REVIEW. Others will be printed later.

The meeting afforded a pleasant occasion for the gathering of the

economists of the Pacific coast, who are too widely separated by distance to have many opportunities of the kind, and it also made it possible for some of their colleagues in the Middle West and East to come into touch with them. About sixty members of the Association were present, and of these about half were from the states of the Pacific coast. The program was so arranged as to leave much time free for the varied attractions of San Francisco and the exposition, and the pleasant university towns of Berkeley and Palo Alto. Save for luncheons at the two universities no formal gatherings for social purposes had been arranged for, but there was no stint of generous personal hospitality.—A. A. Y.

The Twenty-eighth Annual Meeting of the American Economic Association will be held in Washington, D. C., from Tuesday, December 28, to Thursday, December 30, 1915.

The American Historical Association, the American Statistical Association, the American Sociological Society, the American Political Science Association, and the American Association for Labor Legislation will hold their annual meetings in Washington at the same time. The Second Pan American Scientific Congress is also to be in session in Washington from December 27 to January 8. A large measure of coöperation has been arranged for between Section IX (Transportation, Commerce, Finance, and Taxation) of the Congress and the American Economic Association. This section will be the guest of the American Economic Association at the meetings on Wednesday afternoon and on Thursday morning, while on Thursday afternoon there will be a joint session of the two bodies.

On the morning of December 28, papers will be read on the "Probable changes in foreign trade of the United States resulting from the European War," by Professor Emory R. Johnson, and "Budget making and the increased cost of government," by Mr. Frederick A. Cleveland. The other sessions of this day will be joint meetings with the American Historical Association, the afternoon meeting being given over to the interests of securing a building for housing the federal archives, while at the evening meeting the presidents of the two associations will make their annual addresses. At the morning session, December 29, the subject of the "Economic costs of war" will be discussed by Professor John Bates Clark, of Columbia University, and by Mr. W. S. Rossiter. The afternoon session will be devoted to a discussion of the "Present status of economic theory," the leading papers being read by Professor J. H. Hollander, of

Johns Hopkins University, and Professor W. C. Mitchell, of Columbia University. At the morning session, December 30, Professor F. W. Taussig, of Harvard University, will read a paper on the "Maintenance of retail prices." The afternoon session of this day will be a joint session with Section IX of the Pan American Scientific Congress, the topic for discussion being "The relation of public finance to private credit."

The headquarters of the Association will be at the Hotel Raleigh, 12th Street and Pennsylvania Avenue, which has made special rates for the members of the Association. All of the meetings except the joint sessions with the American Historical Association will be held in the hotel. Further information can be secured from the Secretary of the Association, Professor A. A. Young, Cornell University, Ithaca, N. Y.

The annual meeting of the National Association of Industrial Accident Boards and Commissions was held in Seattle, September 30-October 2, 1915. An account of its sessions may be found in the *Monthly Review* of the United States Bureau of Labor Statistics for November, page 27.

At the meeting of the National Society to Promote the Science of Management, in Philadelphia, October 22-23, a memorial service to Mr. Frederick W. Taylor was held at the University of Pennsylvania.

A third Pennsylvania Welfare, Efficiency and Engineering Conference was held at Harrisburg, November 16-18, 1915.

The headquarters of the American Association of Public Employment Offices, of which Professor W. M. Leiserson is secretary, has been moved to Toledo University, Toledo, Ohio.

The Casualty Actuarial and Statistical Society of America held its second annual meeting in New York City, October 22-23, 1915. Dr. I. M. Rubinow was re-elected president; Mr. C. E. Scattergood, secretary; and Mr. Richard Fondiller (Metropolitan Tower, New York) was elected editor of the *Proceedings*. The membership of the society has increased from 97 to 150. For younger men, admission is by a series of examinations, following the example of actuarial societies of England and this country. At the first examination for associated membership, held in October, 18 out of 32 were successful. A committee on workmen's compensation statistics has summarized the various efforts for standardizing methods of industrial accident statis-

ties and its classification was adopted by the Association of Workmen's Compensation Boards at its recent meeting at Seattle. It has also been adopted by the Workmen's Compensation Service Bureau of New York City, which represents twenty casualty companies.

The federal Bureau of Labor Statistics is engaged in a study of the "turnover" of labor, that is, the number of men hired and discharged in the course of a year. This is limited to certain selected establishments which keep records of the numbers engaged and discharged. The study will show the number of men hired each year in order to maintain the working force of an establishment; and, for those establishments which have created employment bureaus, it will show how successful the bureaus have been in reducing the flow of labor through the establishment. It is important that the facts regarding the labor turnover shall be presented to employers, employees, and the public, so that the wastefulness of unintelligently taking on and discharging employees may be clearly comprehended. It is equally important that the systems in operation for reducing the labor turnover shall be fairly described, so that employers may be guided as to the best methods of dealing with the problem of "hiring and firing."

The federal Bureau of Labor Statistics is also making an inquiry in regard to profit sharing proper, that is, the distribution among employees of a fixed proportion of net profits, as well as other forms of gain sharing, such as distribution of bonuses for long service or for other cause, premiums or dividends on wages, and sale of stock to employees on specially favorable terms. A detailed description and statistical analysis of the various schemes will be given, together with the experience under each system over as long a period as possible.

A third inquiry of the federal Bureau of Labor Statistics relates to the administration of labor laws in the different states, with special reference to the administration of workmen's compensation legislation. This study has for its purpose the securing of detailed information as to the powers and duties of the various state agencies having to do with the administration of labor laws, the organization of these agencies, their methods of work, the funds received from appropriations or other sources, and the results they are accomplishing.

The Woman's Division of the United States Bureau of Labor Statistics is engaged in a study of the effects of accidents resulting in death or permanent disability upon family life. This study should

show the adequacy or inadequacy of compensation paid in the case of such accidents to hold the family together. Considerable light will be shed upon the administration of compensation legislation.

The Chamber of Commerce of the United States has entered upon a campaign to show the need of a national budget and the establishment of a permanent tariff commission.

The National Child Labor Committee (105 East 22d St., New York) announces the appointment of January 22, 23, and 24 as Child Labor Days. Material bearing upon the propaganda will be sent upon request.

The University of Idaho is organizing a state tax association. In the latter part of December a meeting will be held at Boise under the direction of Professor Howard T. Lewis (Moscow).

The Texas Applied Economics Club is coöperating with the Department of Extension of the University of Texas and the School of Domestic Economy in making a social survey of Travis County, Texas.

The New York School of Philanthropy is undertaking to make a study for the federal Children's Bureau of juvenile delinquency in rural districts of the state of New York. This study will be under the special supervision of Kate Holladay Claghorn and Henry W. Thurston.

A report of a committee on vocational guidance (Prof. H. C. Metcalf, chairman) was presented at the third annual convention of the National Association of Corporation Schools which was held at Worcester, Mass., June 8-11, 1915. Answers to an elaborate questionnaire sent out by the committee are included in the report. During the current year Mr. Albert C. Vinal and C. R. Sturtevant are serving with Professor Metcalf on the committee which is planning to investigate a number of carefully selected plants as a laboratory to carry on its work more intensively.

Information has been received of the incorporation at Columbus, Ohio, in April, 1915, of the Efficiency Society of America. The objects for which this society has been formed are to investigate social service, vocational opportunities, scientific and practical information and commercial engineering reports regarding new countries, new markets, and new industries. It will maintain a mutual coöperative employment service without fees for the convenience of members who are unemployed or unsatisfactorily employed. This society will

be patterned after the Commercial Union of Hamburg, Germany, founded in 1858, which now has about 120,000 members resident in different parts of the world, and which maintains a system of departments, such as a free employment exchange which lists about 11,000 positions annually for its members, a free legal aid service, and various pension funds. This society will publish its proceedings in the *Engineering & Commerce Reports*, which is designated as the official organ. Further information can be had of Mr. G. E. Burroughs, Fulton Bldg., Pittsburgh, Pa., chairman of the organization committee.

An unofficial organization, known as the Massachusetts Development Committee, is composed of representatives of a number of agencies interested in agriculture and country life. Some of these organizations are the State Board of Agriculture, the Massachusetts Agricultural College, the State Board of Education, and the Grange. The purpose of the committee is to discuss the activities and functions of these various agencies and to prepare a program for their correlation, so that there may be no overlapping of functions. The chairman of this committee is Mr. C. D. Richardson, of West Brookfield, and the secretary is Hon. Wilfrid Wheeler, secretary of the State Board of Agriculture. Dr. A. E. Cance and Professor E. L. Morgan, of the Massachusetts Agricultural College, are the special agents of the committee.

The federal Bureau of Education announces that the seventh biennial session of the Graduate School of the Association of American Agricultural Colleges and Experiment Stations will be held at the Massachusetts Agricultural College, July 3 to 28, 1916. Among the courses to receive special attention is agricultural economic and rural sociology.

Johns Hopkins University has recently announced certain courses for social workers. These will be given as an extension of the college courses for teachers and will be carried on in coöperation with Goucher College. Professors Hollander and Barnett will give a course in social problems, including unemployment, trade unions, and social insurance.

The University of Wisconsin has organized a business men's conference and lecture course for the first week in February. The department of political economy working in conjunction with the extension division is thus being utilized to bring together a large body

of representative business men of the state for the serious study of business problems, particularly in their relation to social and civic interests.

The New York School of Philanthropy last spring offered four fellowships, two for men and two for women, to college graduates of not more than two years' standing. There were 67 candidates, almost equally divided between men and women, representing 37 colleges and universities.

Mr. Adolph Lewison, president of the National Committee on Prisons and Prison Labor (Broadway and 116th St., New York), offers three prizes for the best theses on phases of the prison problem, to be prepared by students in colleges of the United States. For a master's thesis the prize is \$50 and for an undergraduate essay there will be two prizes of \$25 each. The judges will be Thomas M. Osborne, Samuel M. Lindsay, and E. Stagg Whitin.

THE PLINY FISK STATISTICAL LIBRARY. As a result of a gift from Mr. Pliny Fisk an alumnus of Princeton University, that institution has come into possession of one of the best libraries in the field of American corporation and government finance in the United States. The library which has been well known among bankers and economists for many years is the one which has been in process of collection since 1880 by the banking house of Harvey Fisk and Sons, and which until recently was installed in their New York offices. It contains 5000 books, 18,000 pamphlets, 39,000 bond and stock circulars, and newspaper clippings mounted on some 70,000 separate sheets. A numerical description, however, affords a very inadequate idea of the real value of the library. That consists largely of the exceptional character of much of the material, and the excellence of its classification and of the system of indexing.

There is a nearly complete set of railroad mortgages for all railroads of the United States, where the mortgages exceed \$500,000. Many of these are rare; a considerable number being in manuscript form, either typewritten or written in longhand. There are also numerous copies of leases, reorganization agreements and similar documents. The railroad reports date back to 1828, and for most American roads of importance the sets are complete. There is also a valuable collection of mortgages and reports of street railway companies, and of leading industrial corporations.

The bound volumes include complete sets of a number of important

serial publications, many of which are rarely found in university libraries.

In the line of government publications there is much valuable material, including complete sets of the reports of railway, corporation, and public utility commissions of the leading states.

The literature in the form of circulars, letters, prospectuses, and newspaper clippings relating to the finances of railroads, public utilities, industrial corporations and municipalities is rich.

One of the most valuable features of the library is that the material is carefully indexed, and for the most part with elaborate cross references. The index includes a card index of all corporation notes in the *Commercial and Financial Chronicle* from the first volume published in 1865 to the present time.

The library is to be maintained in the future along the general lines upon which it has been developed in the past. It will be known as The Pliny Fisk Statistical Library.

Princeton University, through its economics department, extends to economists throughout the country a cordial invitation to make use of this library, whenever they desire to do so. E. W. K.

The Engineering Societies' Library of New York has published *Catalogue of Technical Periodicals, Libraries in the City of New York and Vicinity* (pp. xvi, 110, \$3), compiled and edited by the assistant librarian, Alice J. Gates, with the coöperation of the New York Library Club.

A thick pamphlet, *State Documents for Libraries*, by Ernest J. Reece (Urbana, University of Illinois Bulletin, vol. 12, no. 36, May 10, 1915, pp. 163) will be of bibliographical aid to students who are bewildered by the variety of the publications issued by public bureaus and offices.

The H. W. Wilson Company announces that the third five-year edition of the *Readers' Guide* will be shortly published.

The fourth edition of the *Catalogue of the Library of the Institute of Bankers* (London, 1915, pp. 185, 1s.) contains titles under topical headings as follows: banking, bookkeeping and accountancy, commercial history and geography, currency, economics, finance, the money market, languages, law, mathematics and mathematical tables, miscellaneous, pamphlets, parliamentary papers, and periodicals.

Mr. C. B. Fillebrown (77 Summer St., Boston) has renewed his offer to send gratuitously pamphlets bearing upon the question of

single tax. The latest issues in the series thus presented are *Taxation and Housing*, a reprint of a paper read at the Fourth National Conference on Housing in America at Minneapolis, October 7, 1915, and a third edition of *Thirty Years of Henry George with a Record of Achievements*.

The commissioner of agriculture of Vermont (E. S. Brigham, St. Albans) is soon to issue for the benefit of the farmers of the state a bulletin entitled *Rural Coöperative Corporations*. This bulletin is the work of Dr. Alexander E. Cance and Miss Lorian P. Jefferson of the department of agricultural economics of the Massachusetts Agricultural College.

The National Civic Federation (Metropolitan Tower, New York) announces the publication of the results of its investigation of the subject of profit sharing between employer and employee. The report will contain an analysis of over 100 plans now in operation as well as a description of abandoned ones and the causes of their failure. The price is \$2 per copy.

Professor John R. Commons and Dr. John B. Andrews are preparing a volume on *The Principles of Labor Legislation*, which will shortly be published by Harper Brothers in the American Citizens Series. This will include a discussion of the basis of labor law, individual bargaining, the laborer as creditor, the laborer as tenant, the laborer as competitor, collective bargaining, the minimum wage, hours of labor, unemployment, safety and health, social insurance, and administration.

Earl J. Robinson & Co. announces the publication of a series of books in atlas form with special maps of the Western and Middle Western states (111 North Market St., Chicago).

The Texas Applied Economics Club has just published *Studies in the Land Problem of Texas* (Austin, Tex., pp. 179).

The *Single Tax Review* (150 Nassau St., New York) announces the forthcoming publication of the *Single Tax Year Book*, a one-volume encyclopedia.

The Moody Magazine and Book Company (35 Nassau St., New York) announces for immediate publication *Sound Investing*, by Paul Clay, editor of the investment department of *Moody's Magazine*.

There have recently been published several syllabuses relating to economic subjects of study. Among these may be noticed:

Practice Problems in Economics, by Professor George E. Putnam, of the University of Kansas (Lawrence, Kans., 1915, pp. 81). In some cases the problems have been drawn from required readings in standard textbooks, but in the majority of cases the problems are suggestions designed to illustrate textbook readings and to stimulate independent thinking. The order of treatment for the most part follows Taussig's *Principles of Economics*.

Questions on the Principles of Economics, by E. E. Day and J. S. Davis, of Harvard University (New York, Macmillan, 1915, pp. 141), is arranged particularly for use with Taussig's *Principles of Economics*. The questions are arranged and numbered in the sequence of that work. Some of the questions are borrowed from other collections, for which acknowledgment is made.

Syllabus on Money, Banking, and Commercial Crises, by L. V. Ballard, of Beloit College (Beloit, Wis., pp. 31), is designed to outline the subject-matter of a year's course. Bibliographical references are to the more important writers, with a few references to articles in bound periodicals.

George Bell and Sons have recently published *Labour and the War*, by Mr. G. D. H. Cole. This deals with labor attitude to war in general and the present war in particular, the effect of the war on unemployment, and problems relating to trade unions, child labor, and women and the war. This publishing house will also issue shortly a cheaper edition of Mr. Cole's *The World of Labour*.

Joseph Baer and Company (6 Hochstrasse, Frankfurt a. M.) have published a new list of books for sale on sociology, socialism, trade unions, and insurance.

The following books have appeared since the preparation of the lists of new books:

Appleton: *Introduction to the Study of Sociology*, by Edward C. Hayes; *Regulation of Railroads and Public Utilities in Wisconsin*, by F. L. Holmes; *Satellite Cities*, by G. R. Taylor.

Banks Law Publishing Company: *The Law and Practice of Inheritance Taxation in the State of New York*, by T. Ludlow Chrystie.

Bobbs-Merrill: *Taxation of Land Values*, by Louis F. Post.

Century Company: *Economic Principles*, by Frank A. Fetter.

E. P. Dutton: *The Prevention and Control of Monopolies*, by W. J. Brown; *The British Coal Trade*, by H. Stanley Jevons.

Ginn: *Readings on the Relation of Government to Property and Industry*, by Samuel P. Orth.

Harvard University Press: *The Evolution of the English Corn Market*, by N. S. B. Gras.

LaSalle Extension University: *Railway Regulation*, by I. Leo Sharfman.

Little, Brown: *The Future of South America*, by Roger W. Babson.

Longmans, Green: *Practicable Socialism*, by the late Canon and Mrs. W. A. Barnett; *On the Relation of Imports to Exports*, by J. T. Piddie.

McClurg: *Government Finance in the United States*, by Carl C. Plehn.

Macmillan: *Voting Trusts*, by H. A. Cushing; *Inventors and Money-Makers*, by F. W. Taussig.

Constable: *British War Finance, 1914-1915*, by W. R. Lawson.

P. S. King: *Old Age Pensions*, by H. J. Hoare.

Pitman: *Foreign Exchange and Foreign Bills in Theory and Practice*, by William F. Spalding.

Routledge: *English Railways*, by Edward Cleveland-Stevens.

In July, 1915, the Bureau of Labor Statistics of the United States Department of Labor began the publication of its *Monthly Review* in which there will be published the results of investigations too brief for bulletin purposes, notes of labor legislation, and federal court decisions affecting labor. Attention will also be given to the work of all government agencies whether federal or state affecting labor matters. "An attempt will be made to keep in touch with the more important current movements and methods for reporting industrial accidents and occupational and industrial diseases and for the prevention of these; the reports of industrial and vocational surveys, the better housing of working men, and any other activities, public or private, that have for their object the betterment of industrial conditions."

The Bureau of Applied Economics announces the publication of a monthly bulletin entitled *The Labor Gazette* (710 Southern Bldg., Washington, D. C.). The editorial board is constituted as follows: W. Jett Lauck, editor; W. L. Stoddard, Edgar Sydenstricker, Henry J. Harris, and W. W. Husband, associate editors. In each number there will be published a record of labor disputes, conciliation, arbitration, cost of living, trade conditions in the principal industries, resumés of federal reports of labor and industry and of special investigations appearing from time to time. The subscription price is \$1.

The New York State Industrial Commission (Albany, N. Y.) began in October, 1915, the publication of a monthly *Bulletin* containing a record of the activities of the different bureaus of the commission.

The October number of the *C. F. & I. Industrial Bulletin*, published by the Colorado Fuel and Iron Company (Boston Bldg., Denver, Colo.) contains the address of Mr. John D. Rockefeller, Jr. at the meeting of the officers and representatives of the employees of the company on October 2, 1915, and also the plans of the representatives of the employees with a memorandum of agreement.

The Utilities Bureau of Philadelphia publishes *The Utilities Magazine*, the first issue of which appeared in July, 1915 (pp. 32). This number contains articles on "The right of a plaintiff to examine the books and properties of a utility company," "The cost of producing gas in America cities," and "A digest of the ordinances regulating jitney buses adopted in American cities." Mr. Morris L. Cooke is director of the bureau.

In the *Yearbook for 1915* of the Carnegie Endowment for International Peace (2 Jackson Place, Washington, D. C.) is a brief report by J. B. Clark, director of the division of economics and history, in regard to the work of his division (pp. 85-89).

In the *Monthly Review* of the United States Bureau of Labor Statistics for November, page 107, is given a list of the different state minimum wage boards and of workmen's compensation and industrial commissions with addresses of the secretaries.

The *Revue Economique Canadienne* (Montreal) has discontinued publication.

Owing to the war, the *Sociological Review* of England has temporarily suspended publication.

Appointments and Resignations

Mr. L. A. Anderson, lecturer in insurance at the University of Wisconsin, has been appointed actuary of the Wisconsin state insurance commission. He continues to give his course in insurance at the university.

Dr. William F. Blackman, who has been president of Rollins College, Winter Park, Fla., for the last thirteen years, has retired from academic work.

Dr. Leonard Blakey, who had been granted a leave of absence from Dickinson College during the past year to make an investigation of the municipal pension systems of the United States with the Mayor's Pension Commission of New York City, has resigned his position in Dickinson College to accept an assistant professorship in the commercial engineering department in the Carnegie Institute of Technology, Pittsburgh. Dr. Blakey succeeds C. B. Stoner who has become the general auditor for the Stadler Hotel Corporation.

Professor Mortiz J. Bonn, of the University of Munich, is lecturer at Cornell on the Jacob H. Schiff Foundation for the first term of the present academic year.

Dr. Norris A. Brisco, of the College of the City of New York, is now head of the department of political economy and sociology at the State University of Iowa.

Mr. S. P. Brissenden has been appointed special agent of the United States Department of Labor.

Miss Dorothy M. Brown has been appointed instructor in economics at Vassar College.

President E. A. Bryan, of the State College of Washington, has resigned.

Mr. Robert A. Campbell has been appointed lecturer in economics at Cornell University.

Professor H. E. A. Chandler of Arizona is acting as expert to the Mills' State Tax Committee in New York.

Dr. John Lee Coulter is now dean of the Agricultural College of the University of West Virginia, Morgantown, W. Va.

Dr. Fred A. Dewey, recently of Bryn Mawr College, has taken a position in the bond department of the National City Bank, New York City.

Dr. E. H. Downey, lecturer on industrial insurance at the University of Wisconsin and statistician of the state industrial commission, has resigned his position to become deputy insurance commissioner of the state of Pennsylvania. Dr. Downey is to have charge of the accident industrial insurance work of the state.

Mr. William H. Duffus, who has been employed by the Wisconsin Railroad Commission, has been appointed an assistant professor at the University of Kansas.

Mr. W. I. Easly, of Buena Vista College, is now in charge of the department of commerce and business administration at Drake University, Iowa, and is ranked as an assistant professor.

Dr. L. C. Gray, formerly of the University of Saskatchewan, has been made professor of economics at the George Peabody College for Teachers, Nashville, Tenn.

Dr. R. M. Haig, of Columbia University, is acting as expert to the Mayor's Tax Committee of New York.

Mr. Robert E. Hale has been appointed an instructor at Columbia University.

Professor L. H. Haney is acting as head of the division of public welfare of the department of extension of the University of Texas.

Mr. Alvin Hanson has been appointed assistant in economics at the University of Wisconsin.

Mr. Gould L. Harris, formerly an assistant in the department of economics and sociology at the Ohio State University, has been made an instructor.

Mr. Hudson B. Hastings has been appointed professor of applied economics at Reed College.

Dr. Fred E. Haynes, of Morningside College, has been granted leave of absence and is to give instruction in sociology at the State University of Iowa.

Mr. A. C. Hodge has been appointed an assistant professor at the University of Kansas to teach accounting, business law, and related subjects.

Mr. Earnest O. Holland, formerly superintendent of schools at Louisville, Ky., has been elected president of the State College of Washington.

Mr. Sydney D. M. Hudson, formerly of Bryn Mawr College, is giving instruction in social politics at the New York School of Philanthropy.

Mr. Olin J. Ingraham has been appointed assistant in economics at the University of Wisconsin.

Professor W. T. Jackman, recently of the University of Vermont, has joined the staff in political economy at the University of Toronto.

Mr. R. M. Keir has been advanced from the rank of instructor

to that of assistant professor of industry at the University of Pennsylvania.

Dr. W. I. King has been promoted to an assistant professorship of political economy in the University of Wisconsin and will have charge of the classes in statistics.

Dr. C. C. Kochenderfer has been appointed instructor in economics at Cornell University.

Miss Edna L. Kroener has been appointed assistant in economics at Vassar College.

Dr. William M. Leiserson, formerly assistant director of research and investigation for the United States Commission on Industrial Relations, has been appointed professor of economics and political science at Toledo University. Professor Leiserson is also director of the Municipal Reference and Research Bureau which is being organized by the University.

Mr. G. I. H. Lloyd has resigned his position at the University of Toronto and has taken a post in the British Ministry of Munitions for the duration of the war.

Mr. Gordon McKay has been made instructor in economics in the extension division of the University of Wisconsin.

Mr. R. D. McKenzie has been appointed instructor in sociology at the Ohio State University.

Mr. Frederick R. Macaulay has been appointed to fill the temporary vacancy at the University of Washington caused by Professor Custis' year's leave of absence.

Professor E. P. Moxey, Jr., of the University of Pennsylvania, has been advanced from the rank of assistant professor to professor of accounting.

Professor H. R. Mussey will spend the second half of this academic year in Japan and China.

Professor Scott Nearing, recently released from the University of Pennsylvania, has been appointed dean of the College of Arts and Sciences at Toledo University. He assumes his duties in January.

Dr. Maurice Parmelee is taking the place of Professor A. E. Jenks, chairman of the department of sociology and anthropology

of the University of Minnesota, for the first semester of the present academic year.

Mr. E. M. Patterson has been advanced to the rank of assistant professor of economics at the University of Pennsylvania.

Mr. Elmore Petersen is secretary of the Bureau of Vocational Instruction of the University of Colorado Extension Division with headquarters in Pueblo.

Walter W. Pettit, a graduate of the Teachers' College of New York, for eight years engaged in statistical work in the Philippines, and more recently a field agent for the American Playground Association, is assistant in social work at the New York School of Philanthropy.

Professor John Phelan has been appointed to the chair of rural sociology at the Massachusetts Agricultural College. Professor Phelan comes from the State Normal School at Stevens Point, Wisconsin, to take this position which was made vacant by the resignation of Professor E. K. Everly.

Mr. Howard H. Preston has been made instructor in economics at the State University of Iowa.

Mr. Robert J. Ray has been appointed professor of economics at Oliver College.

Mr. Frederick W. Read has been appointed assistant in agricultural economics at the Massachusetts Agricultural College, where he is engaged upon an investigation of the production and distribution of onions. Mr. Read comes from the Office of Farm Management, of the United States Department of Agriculture, in which office he was assisting with a survey of cut-over lands in Michigan, Wisconsin and Minnesota.

Mr. J. J. Reighard has been appointed an instructor in accounting and statistics at the Iowa State College of Agriculture and the Mechanic Arts.

Mr. E. C. Robbins has been appointed an assistant professor at the University of Oregon.

Mr. L. A. Rufener has been appointed professor of social sciences at Lombard College.

Father John A. Ryan, formerly of St. Paul Seminary, now has

charge of the work in political science at the Catholic University, Washington, D. C.

Miss Marion D. Savage has been appointed instructor in economics at Wellesley College.

Mr. Stewart Schrimshaw, instructor in economics at the University of Wisconsin, has been appointed inspector of apprentices by the Wisconsin state industrial commission.

Dr. Lorin Stuckey has been advanced from instructor to assistant professor of sociology at the State University of Iowa.

Professor J. J. Sullivan, formerly assistant professor of corporation law at the University of Pennsylvania, has been made professor of business law.

Professor Arthur E. Swanson is serving as acting dean of the Northwestern School of Commerce during the absence of Dean Hotchkiss.

Dr. Harry R. Tosdal has been appointed instructor in economics at the Massachusetts Institute of Technology.

Mr. Ray S. Trent, formerly instructor in economics in the extension division of the University of Wisconsin, has been appointed assistant professor of political economy in the University of Indiana.

Mr. D. S. Tucker has been appointed an instructor at Columbia University.

Assistant Professor Valgren, of the University of Kansas, has resigned his position to take a place with the Bureau of Markets, Department of Agriculture.

Mr. Walter C. Weidler, formerly an assistant in the department of economics and sociology at the Ohio State University, has been made an instructor.

Dr. H. B. Whaling, recently of the University of Texas, has been appointed instructor in economics at the University of North Dakota.

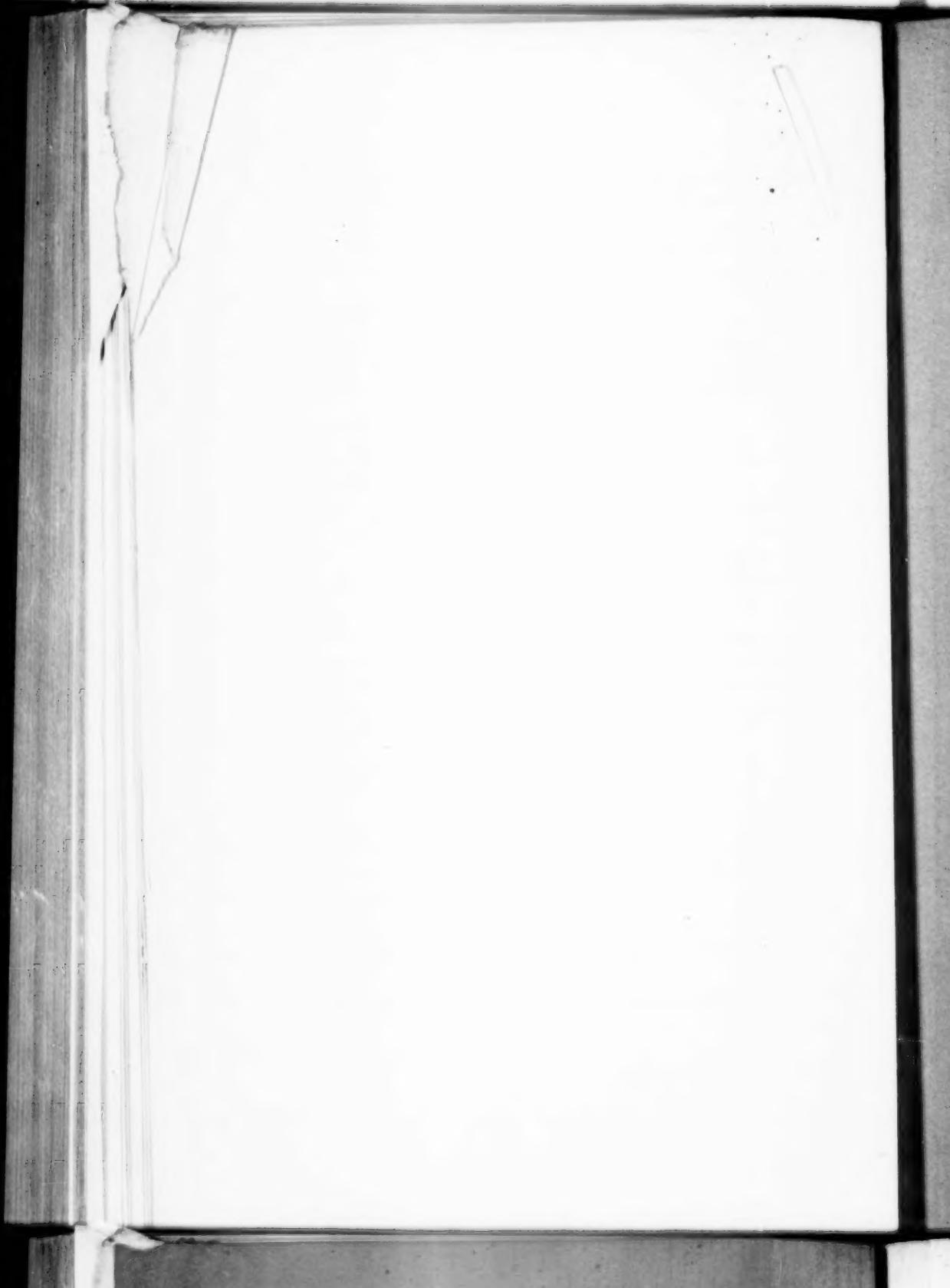
Mr. Otto F. Wilkinson, formerly an assistant in the department of economics and sociology at the Ohio State University, has been made an instructor.

The department of economics and history in Albion College has been divided. Professor Frank T. Carlton continues as the head

of the department of economics and sociology. Professor John Zedler has been placed in charge of the department of history and political science. Courses in business administration have been added to the work in economics. Mr. G. L. Griswold is instructor in business administration.

Professor Guy S. Callender, of Sheffield Scientific School, died August 8, 1915. Professor Callender was graduated from Oberlin College in 1891 and later received from Harvard the bachelor's and master's degrees and in 1897 the degree of doctor of philosophy in political science. From 1897 to 1900 he was an instructor in economics at Harvard University and in the latter year went to Bowdoin College as professor of political economy. In 1903 he went to Yale University. Professor Callender was the author of *Selections from the Economic History of the United States, 1765-1860*; "The Early Transportation and Banking Enterprises of the States in Relation to the Growth of Corporations," published in the *Quarterly Journal of Economics*, November, 1902; and "The Position of American Economic History," which appeared in the *American Historical Review*, October, 1913.

Mr. Sereno S. Pratt, secretary of the Chamber of Commerce of the State of New York, died September 14, 1915. Mr. Pratt was author of the *Work of Wall Street*.



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Books for review should be sent to the Managing Editor.

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